

# psa

OFFICIAL PUBLICATION OF THE PHOTOGRAPHIC SOCIETY OF AMERICA

# Journal

Volume 24

March, 1958

Number 3



# AnSCO DUALET



**\$39.95**

takes all popular  
sized slides for  
the most exciting  
screen images  
you've ever seen.

**AnSCO**

A Division of General  
Aniline & Film Corporation.

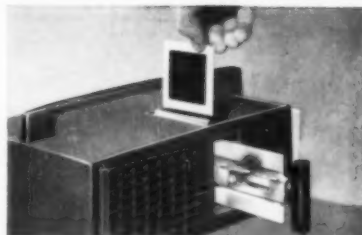
Let's talk about projector quality and performance! Ideally, the best projectors have the following features: Blower cooled, sharp corner to corner illumination, take all size slides up to 2 1/4" square, and they must have enough light output to really throw a brilliant image on the screen. Many projectors fill the bill, but most of them cost two or three times as much as AnSCO's Dualet!

Here at last is the ideal combination; every feature of the finest projectors (and some extras such as the Dualet's

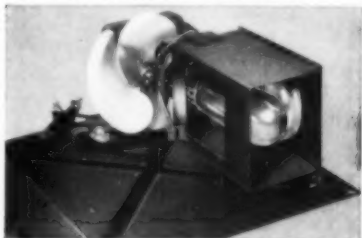
new fan design) are incorporated at the amazingly low price of \$39.95! There's no doubt about it, the AnSCO Dualet is definitely recognized (by every leading photographic magazine) as something revolutionary in projectors.

And remember, the Dualet's superb styling means that it can be displayed permanently, it's that good looking. No need to hide it away after every slide showing.

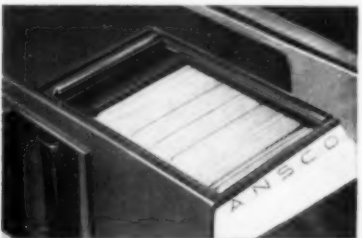
Your local AnSCO dealer will be delighted to give you a demonstration of the new Dualet. It will be the most rewarding trip you have ever made to your dealer.



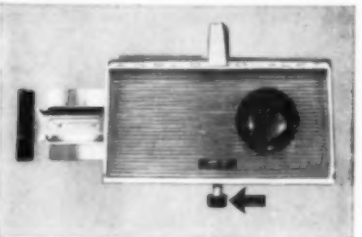
ALL SLIDES from 35mm to 2 1/4" square are easily used in this new projector. No additional tools necessary. And just feel the easy action of the carrier!



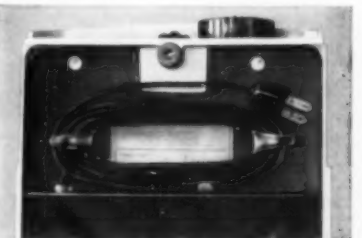
Here's the heart of the Dualet's cool brilliance! New horizontal 300 watt projection bulb throws more light, overlapping fan blades give silent cooling.



Built in storage compartment holds up to 40, 2 1/4" square slides convenient at hand. Sliding cover keeps slides dust free, makes Dualet more attractive!



Front-end tilting adjustment works smoothly and easily to center image on the screen. Note low, graceful front view that makes the Dualet a decorator's dream!



Power cord winds neatly out of the way after slide shows. No tangled cords, no annoying, dangling wires. The Dualet really has everything.

# PSA

# Journal

with which is combined  
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and Movie Makers

OFFICIAL PUBLICATION OF THE PHOTOGRAPHIC SOCIETY OF AMERICA ★ ★ ★

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PSA Journal does not pay for manuscripts or pictures; all functions of PSA are based on voluntary activity. Manuscripts of articles may be submitted direct or through the Division Editors and will be returned if not usable. Manuscripts should be type-written, double spaced, and never written in all capital letters in imitation of teletype. Closing date for news is the 25th of second preceding month, in Stamford. Trading Post items must be in Editor's hands by 20th of second preceding

month. Date of issue is 10th of the month.

The PSA Journal is sent to all member clubs and affiliated organizations. It is for the use of the entire group and not solely for the individual to whom it is addressed.

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# The President Reports



C. A. Kinsley, FPSA  
Executive Vice-President  
Guest Columnist

One day not so very long ago my younger daughter welcomed me home from the office with: "Boy! You musta' done something wrong! You got seventeen PSA letters today!" I laughed at the moment, but later as I read some of the letters, I really didn't know whether I ought to be happy or blue.

Among the letters was a complaint from a member who writes reams of stuff for the Journal and never sees it published; one from the chairman of a salon that wasn't given special recognition, and a real darb from an ambitious chap who thought "we ought to fire half the Board and start over again."

Some of the criticism was justified. Part of it was carping without reason. All of it seemed to be sincere. It was this sincerity that prompted me to reflect the way I am right now, and the way I have reflected off and on for the past 15 years.

PSA is a most unique business organization. Look at the number of people running our affairs! There are 7 National Officers, 4 Zone Directors, 84 District Representatives, 303 Area Representatives, 26 Committee Chairmen, 7 Division Chairmen, and 176 Division Committee Members. In addition, several hundred members are involved in offering 112 different services to clubs and individuals.

How many of these folks do you think are paid? Guess again if you said even one. Our Executive Secretary gets paid, his job being to put into effect the

orders of the Officers and Board, to manage Headquarters and the paid staff there; our Journal Editor gets paid to edit and produce the Journal; our Advertising Manager gets paid to solicit and sell advertising for the Journal. Neither of the latter two has paid assistants. Everyone else—a word of praise here and there, sometimes a thank-you letter.

Because the labor is volunteer, there's a tendency to be pretty free and easy about running everyone else's business. This is the way it ought to be. A society is no stronger than its members, and unless the members take a hand in running affairs, there'll be no affairs to run. No one man can have complete authority.

Why don't you write a letter? If you like the conventions or you don't like the conventions, say so. Do you want the Journal changed, new services added, or the exhibitions standardized? Tell somebody. Your Directory will tell you who the somebody ought to be.

If you grumble to yourself, you won't be helping. Repressed grumbling has a way of turning into serious discontent. Your officers are elected to do things for you. They can't unless they know what you want.

So I say "write me a letter". Maybe I can't do anything about your problem, but I'll try to find someone who can. So will the rest of your officers. Try us and see.

CHARLES A. KINSLEY, FPSA



# The Diffuser

## The New Look

The new Journal is "sharp." The changes are forward steps. I like "PSAs in Pictures."

Art Miller

I thought the January issue looked real good. It came 10 days earlier, too.

George Cushman

The "New Look" is a pleasant surprise. I like the layout and the eye appeal of the cover.

Dewitt Bishop

Congratulations on the "Progressive Look" of the Journal, it's wonderful.

Al Hilton

Your January Journal was great. Keep it up.

Earle W. Brown

Cheers for the new format of the Journal. Very good, clean and mighty easy on the eyes. You've overhauled in just the right places, even though you

did get squeezed off the contents page.

Jack McKeown

I got a real thrill when the last copy of the Journal reached me. It is magnificent. Last Sunday afternoon the Executive Committee of the P-J Division met and every member felt the same way. As Secretary of the Division I have the pleasant duty of transmitting the official vote of thanks, approval and admiration accorded to you and those who helped you improve the format of our Journal. The vote was unanimous and hearty.

Harry Davidson

Like the new format and type very much.

Jane Campbell

I Like it.

Herb MacDonough

Congratulations on the new look. What a handsome lift for the Journal and what a promising start for the New Year.

Joe Bernstein

For those who did the work, I cast a unanimous bow for your kind words.  
—db.

## What's what?

Dear Don:

I'm new in PSA and there are some things I'd like to know the meaning of. Those colored tabs on the membership pin with the letter C. The meaning of Hon. PSA and Hon. FPSA. Also FRPS and FACL. What awards and honors does the Society give.

Frank McAdams

• The colored tabs are the marks of Star Exhibitors. Five colors denote one, two, three, four or five stars. Without a letter it is from the Pictorial Division, C and N stand for Color and Nature. I'm not sure of the color code or if it is uniform.

APSA and FPSA are Associates and Fellows of PSA. The requirements are spelled out at the back of the Membership Directory. Hon. stands for Honorary, either Membership or Fellowship. The Hon. PSA is given for outstanding service to PSA, the Hon. FPSA for outstanding service to photography. An FRPS is a Fellow of the Royal Photographic Society of Great Britain. FACL

(More letters on page 4)

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## The PSA Traveler



Those who have been to Mystic Seaport (just off U. S. 1 in Connecticut), in the summer don't realize that there are good winter pictures there, too. The old whaler Chas. W. Morgan draped in snow offers many compositional chances and the old Seaport Street doesn't look like a Museum. This picture is by Herb Corey of the staff, but you'll find PSA is represented at Mystic by Margaret Scheibeler, Travel Aide.

was awarded by the Amateur Cinema League which is now a part of our Motion Picture Division. The complete list of awards is to be found in the front of the Membership Directory, new edition coming soon.

### E adds to E's remarks

Dear Don:

I was glad to see Eusenberger's article on color retouching in the Journal. He errs in stating that Anscochrome has an "emulsion" on the back. This is an anti-abrasion coating. Kodachrome has it too but it is removed in processing. Many films have anti-abrasion coatings on the front, too. It is a clear gelatin layer without silver which absorbs friction marks without developing out.

I would like to add that it is often easier to handle single frames of 35mm film if they are taped on four sides to a piece of glass several inches square. It holds them flat, keeps the back from getting wet, holds the edges down all the way and helps keep fingers off.

Dr. Price's Dyes are excellent. Webster Photocolors and Dr. Martin's Transparent Colors (not food colors) are also good.

Dave Eisendrath

### Judging

Dear Don:

I sure hope you keep the coals glowing under the hot issues of Judging and get some of the glaring faults aired. In

belonging to two clubs of two extremes I can see that one judge isn't always right, and that five can make as many mistakes as three. After watching so much judging, I'm under the impression that Invitational Shows would be much more exciting to view. It could be varied to make it interesting; limit one show to three-star or better exhibitors; the best of the East shown in the West and vice-versa. Just make the number of exhibitors large enough that the shows wouldn't become stale and have a sameness.

Doc Cochran's article has much merit but the time involved for a slide show would kill that idea. I think judges should be separated so they can't huddle. Too many judges are judging too many times during the year. They travel all over the country to the big exhibitions. They have set up their own rules and try to impose them on all shows. Burdette White calls them "Taboos" in his splendid article.

There is also the possibility of "assigned" exhibitions.

Jack McKeown

- Just keep in mind that PSA doesn't pick nor recommend judges. This is always a local matter. Then write what you think about it.

### Who's Tabu?

Dear Don:

What is bothering Burdette White?

S. H. W.

- Not being a nature specialist you wouldn't know the exacting requirements of nature photography. Subject matter, and the photographic treatment thereof is as important as composition, exposure, etc. Burdette is not provoked with anything that is PSA's doing. He is very much annoyed at the approach of some judges of nature shows. Not knowing his specific problems I can't cite them, but I can offer equivalent experiences of others.

Nature covers many "ologies." A judge should be as competent in them as in photography. There are few men and women who have the broad education or experience. Here are a few examples of that.

At one show a slide was entered which was one of those once in a lifetime shots. The photographer had been lining up on a blossom when a beautiful butterfly landed. Being ready to shoot, the shutter was clicked. The judges threw it out, one remarking it was a dead butterfly glued in place, despite the fact that the wing tips were still fluttering and the motion showed.

A nature photographer got a once in ten lifetimes shot of the emergence of

(More on page 49)

## the editor's corner

It has been a pleasant experience to get all those nice messages about our New Look. Allen Stimson tells me he has received quite a few also. Excerpts from the earliest arrivals are printed in The Diffuser.

Why didn't we run them in February?

Well, it's like this. The calendar is our master, it wields a long whip, and by the time you were reading January, the February issue was already being locked up and put on the press. Just an hour ago a call from the printer advised us that February was all in the mail, and we're now writing the last minute copy for March!

We wish some of those who plan events would realize that. Tomorrow is the first of February and we'll continue to get announcements for the February issue!

I'd suggest you read the small print on page one. It tells about closing dates, about typing double-spaced, and lots of things. Go on and read it for once.

You may have noted that when we run color on the cover, the plates are always through the courtesy of a friendly firm in the photo field. To run your pictures, or ones we choose or make is another matter. It would take the dues payments of one hundred members to pay for a set of four-color plates. We feel that your money can be spent to greater benefit on direct services. The commercial magazines with their much higher advertising revenues can afford color. We simply can not.

Another point is this, and it is one that has been given serious thought for years by our Board, Commercialization. The use of the Society and the Journal to further commercial enterprises. It has always been the policy to avoid this. How then do we account for several articles of recent years?

It is simple.

If a radically new product which introduces a change in photographic techniques is brought on the market, it is news.

A new model of a camera, a new gadget, a new surface of a printing paper does not meet the requirements of change. It is interesting as a new product, but if it is not a new technique it is not deserving of feature treatment.

Your current Editor uses this yardstick in evaluating the situation. In fact, if we get wind of such a product we make every effort to get it written up for the earliest Journal possible. The article on Panalure in the last issue was planned at St. Louis; it had to await the release of the paper to the market before we could print it.

I wish we had been able to show you more color samples with the article. But even if we could borrow the plates, the cost of printing inside is quite a consideration for us. We try to make every one of your dollars count in the Journal so we must always compromise between the desire of the Editor to have a smashing issue and the cost of the smashes. When our membership rises to 50,000, where it should be, we'll be able to spread the cost more and can bring you the extra niceties.

Until then, if you have a nice shot in color for our cover, be sure to enclose with it a check for \$1500.00 to pay for the plates. We'll refund any excess.—db.

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Camera Club Affiliation (under 16, names & ages) .....	Make check payable to: GLASS CITY REGIONAL CONVENTION—PSA	
PSA Member? Yes <input type="checkbox"/> No <input type="checkbox"/>	Mail with hotel reservation to: Toledo Convention Bureau 218 Huron Street Toledo, Ohio	
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## EASTERN ZONE

### Glass City Regional

The "Glass City Regional" to be held in Toledo on May 23rd-25th promises to be a lively weekend according to Ed. Clayton, Chairman. Convention Headquarters will be the Commodore Perry Hotel, where the registration desk will be open at 3:00 p.m.

Jim Sherry and Larry Hiatt, APSA, program chairmen, announce the following "highlights" as part of the program now being arranged: "Chuck" Kinsley, APSA, Rochester, about "Planning for Better Pictures" when we are out shooting color. Elwood Armstrong, FPSA, Detroit, on the subject of how to get a good negative with the new films and developers. June Nelson, APSA, Chicago, with her newest program, "Pattern Shots in Color." Ollie Romig, FPSA, Pittsburgh, explaining his use of the Mediobrome process for print control. John Fish, APSA, Rochester, regarding panchromatic paper. Dick Bird, FPSA, world-known naturalist photographer, as banquet speaker on the subject "Alberta."

A feature of the Saturday night banquet will be door prizes made of glass, for home use and for photographic purposes, glass blocks, plate glass, glass containers, etc. The Sunday morning field trip will be offered at two times: 7:00 a.m. for the "early birds" and later for the "slow starters."

Exhibits will include an invitational salon of pictorial prints by topflight exhibitors, and color slides chosen from entries by registrants. Emphasis will be on how-to-do-it programs, with question-and-answer periods to follow. Registration blank may be obtained from Rosemary Elkes, 2626 Cheltenham Drive, Toledo 6, Ohio.—Georgia Roper, reporting.

### Connecticut Chapter

The new Connecticut PSA Chapter has scheduled its first annual meeting for Friday evening March 28, 1958 at the Sanford Barn, Hamden, Conn. Dinner, at a reasonable charge, will be served before the business meeting. Officers for the forthcoming year will be elected and final plans will be agreed upon concerning the Town Meeting the Chapter has decided to hold all day Saturday, May 3rd.

This Town Meeting will be at the Yale University and has the full sanction and cooperation of the University. Prints and slides are to be exhibited in four classes: Connecticut Camera Clubs, independent PSAers, star rated PSAers, visitors and/or non-PSAers. Trophies and ribbons are to be awarded. The host for this Town Meeting will be the Yale Photographic Society with the New Haven Camera Club handling the print and slide competitions. Remember to hold May 3rd open and look for more details about this Connecticut Town Meeting.—R. M. Pettit reporting.

### Greater Detroit CC Council

At its recent annual awards banquet

Editor: O. S. Larsen

70 Strawberry Hill Ave., Stamford, Conn.

the Greater Detroit Camera Club Council installed Clarence Bock of the Silhouette CC as its President. Over 80 guests were present at the dinner at the Whittier Hotel.

The annual "Modelcade" is to be held June 15 at the Northland Shopping Center. Three thousand camera fans attended the two week period last year, taking pictures of over one hundred lovely models—and more than a thousand prints were submitted to the contest.

Committees are also at work on the details for the summer picnic which always draws a large attendance.—B. M. Beeman Reporting.

### Boston CC Polio Project

Patients in the Mary MacArthur Memorial Respirator Unit of the Hospital and Convalescent Home for children in Wellesley Hills will soon be able to take pictures with special camera equipment to be provided by the members of the Boston Camera Club. The unit is dedicated to the care of those who have had the type of polio causing paralysis of the respiratory system together with partial or total paralysis of the extremities.

Many of the patients are adults who had done some photography before becoming incapacitated, and would like to do more were it possible. After colorslide shows there were always questions asked about equipment and methods used in taking pictures with a great interest in close up photography.

Special equipment required for this being beyond the budget of the unit, the Boston C.C. has taken over the job of financing and setting up an outfit consisting of a single lens reflex camera with preset diaphragm and provided with especially designed controls for focusing and tripping the shutter release by mouth.

The project committee is headed by PSAers George L. Lienau and George W. Hollis and should be well along by the time you read these lines. We congratulate the Boston C.C. on this worth while effort which might well prove of interest to other camera clubs.

### Stamford (Conn.) CC

Members of the Stamford CC are co-operating with the Stamford Museum and Nature Center by taking pictures of the grounds and exhibit halls for a new brochure to be issued by the Museum in the spring. Joseph Chiamonte, Past President of the Stamford CC is in charge of the project.

### New England CCC Outing

Council President Leslie A. Campbell announces that the annual NECCC outing will take place on July 11, 12, and 13 at the University of Mass., Amherst. The success of the past two outings at this location puts this meeting high on the list for hundreds of photographers from all over the East. Over seven hundred registered guests attended last year.



# new **CIRCULAR LIGHT** **FOR STROBOFLASH\***

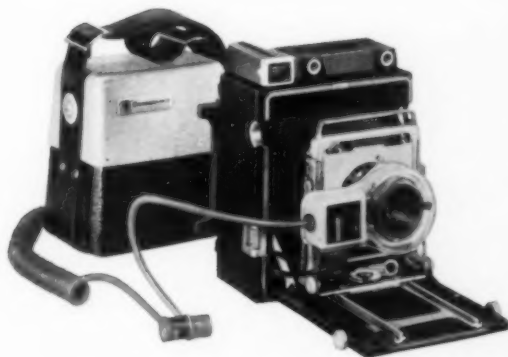
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## CENTRAL ZONE

### Boeing CC

Boeing Camera Club, of Wichita, Kansas, recently held a "Bring Your Own Model Night." According to "Film Ends," official bulletin of the club, members were instructed to bring their own wives, daughters, sons, cousins, aunts, uncles, grandparents or even the family pet and (presumably) one's sweetheart to the meeting. This was a gala affair. The club furnished lights and back drops, along with the information that the lights would be photo-floods; this for the benefit of color fans. The current issue of "Film Ends" contains a table which gives the proper correction filter for each of the various types of color film.

### Fotoclan

The CZ Editor welcomes the St. Louis CC known as Fotoclan to the CZ news. The club meets at 8:00 P.M. on the second and fourth Tuesdays at 201-203 Taylor-Olive Building in St. Louis. The Fotoclan Bulletin is called "The Birdie" and the slogan is "Watch the Birdie for coming events." M. Glickman is Editor of the "Birdie" and W. J. Benkema is Director of Publications. Recently, the club devised a novel way of judging prints and slides. The method is that of a "Trial by Jury."

The first session was held late in January and was conducted by Gene Chase (V. P. of PSA) serving as judge. He was assisted by Jack O'Brien as Prosecutor and Burt Ritson as Prosecutor. It was a good success and a new educational experience for the club. Of course, the defendants were prints and slides. The "Birdie" is very new, the notes above having been taken from Volume 1 Number 3.

### CACCA

According to the monthly news release of the Chicago Area Camera Clubs Association for January, "it has become a well recognized fact that members of camera clubs collectively represent some of the best adjusted groups in American community life today." The article goes on to say that CC memberships include almost every facet of human endeavor, including educators, businessmen, doctors, lawyers, clergymen, engineers, office and factory workers, etc.; all are primarily interested in a most fascinating hobby and employing their clubs as a means of exchanging ideas and obtaining photographic "know how" in the typical American way.

### Chicagoland In Pictures

Most recent judging for the Chicagoland In Pictures project was held on February 15. Nearly all active CC members in Chicago are making an effort to participate in this stupendous project. Judgings are held three times a year. Approximately 75% of the entries submitted by members of the Association CC's have been accepted.

Central Zone Moves to Philly Oct. 1

Editor: Dr. Wm. W. Tibby

1265 Union Ave., Memphis 4, Tenn.

### The Largest Camera Club?

The Hawthorne CC is the largest club in the CACCA with a membership of approximately 1800. The club is sponsored by the Western Electric Company's Hawthorne Works in Cicero, Illinois. This is possibly the largest CC in the U.S.A. Can anyone produce a larger one? (*How about Kodak CC?—Ed.*)

### Texas District

S. D. Chambers, DR for Texas, writes that "Photography has no fiscal year in Texas. The cycles of events overlap throughout the state and there seems never to be a true ending and another beginning."

Harry Hartly of Edinburg (Texas) wrote S.D. that he entered 23 salons in 1957 and had 60 acceptances. S.D. offers the opinion that "this is not a lot of shows but the percentage of acceptance is a 'Texas Brag'" which he offers with pleasure.

O. F. Metz says that El Paso, as they do every year, went all out for their Sun Parade. There were 44 floats and 21 bands and the Sun Bowl football game between Drake University and the Louisville Cardinals. O. F. Metz was out of film just at the time when a girls' band from Port Arthur came by on a "double step." According to Paul Peters, the girls do not slip by the Wichita Falls CC that easily. For the last meeting of 1957, this club had models supplied through the courtesy of the Bonnie Baxter School of Dancing.

### San Antonio CC

Program Chairman Victor Weiss of SACC schemed up "Gadgets and More," asking every club member to bring his pet photographic gadget to the meeting for gadget night. It seems that Dr. William H. Miller's "Infernal Machine" stole the show. What appeared to be a model of a guillotine, in reality was a copying stand devised from an old jack of the revolving type. It served Dr. Miller very well until he devised one of a "precision" nature.

### Fort Worth Cinema Club

August Bartholet's Moviemaker, bulletin of the Fort Worth Cinema Club, has a new format consisting of a single sheet which measures 8½ by 14 inches and crammed from top to bottom with a great variety of items. The club has changed its meeting place to the Fort Worth Art Center, thanks to Vic Thornton. The club will meet at the Art Center throughout 1958.

### Okmulgee CC

This Oklahoma club, for the first meeting of the year, had a program by the San Fernando Valley CC entitled "These Are Our Favorites." It consisted of favorite slides of the SFVCC of North Hollywood, California. Their proximity to Hollywood should at least be of inspirational benefit.

## National Lecture program

### Henry Miner Hit In Memphis

Henry C. Miner, Jr., ARPS, APSA, of Riverside, Conn., one of our leading exhibitors of color slides, recently visited Memphis under sponsorship of the Memphis Pictorialists, co-sponsors being the Memphis CC and Mid-South CC, both of Memphis. His excellent presentation in the auditorium of Brooks Memorial Art Gallery drew a packed house and the SRO sign was out for the first time since the rather new auditorium was built.

Henry's program is designed to interest and help all photographers whether amateurs or experts. He is a member of the Stamford, Conn. CC and the Arnchair Photographic Society, the latter a merry and expert group of men, each of whom claims the title of "Vice-president" and all are said to be competitive "head-aches" to all clubs in the New England Camera Club Council's yearly contests. His visit to Memphis was part of a lecture tour through the Southeastern states, sponsored by PSA. The lecture is illustrated by more than 150 slides. It covers such subjects as the proper equipment, advance planning, exposure, do's and don'ts of both pictorial and technical nature and the final presentation of one's slides to family and friends. He proved, to the satisfaction of the audience, that you don't have to travel great distances to get good pictures by showing 33 slides that were made near his home. In the second half of his lecture, the audience was given the chance to participate and they did so with much enthusiasm. Henry Miner was a real "hit" in Memphis.

• Every printmaker knows, or should, that masking the negative down to the selected composition is one way to prevent stray light in the darkroom from degrading print quality.

We all know this, of course, but how often do we neglect precise masking because it's tedious?

Here's a quick, easy way to make the mask, and have a contact proof of the enlarged print at the same time.

Simply contact print the negative. Mount the print on a piece of masking paper. With cropping "L's", select the desired composition, mark it, and, using a metal straight-edge and a razor blade, carefully cut the mask.

The portion removed becomes a contact print of the exact composition from which the larger print is made, and the mask, registered with the negative and, if desired, bound together with it, can be used as many times as you like to get exactly the same composition each time.

This may be a little hard to do if you use 35mm negatives. In that case you might need a surgeon's touch.

Urban M. Allen

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# PSA Cuts

Electros of the PSA Official Seal are now available for use of members in the sizes shown below. They can be used for stationery, membership cards of affiliated clubs, labels of PSA-Approved salons, print stickers and similar uses. All have the word "Member" as a part of the cut and 98 has the words "Sustaining Member". Regulations on use of the seal require that these words be included. These cuts are long-wearing copper electrotypes and should last for thousands of impressions.



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## WESTERN ZONE

### PSA Pacific Regional

Highlights of the program for the PSA members and scads of other camera people who will attend the Pacific Regional Convention April 19 to 20 include top programs from experts in motion pictures, color slides, monochrome and other print mediums, stereo and nature photography. The convention committee has reached to Mexico City to bring Jose L. Zakany, APSA, with his "Color Slide Duplication" and "Creation of Montage through Copying." The Oakland CC stereo staff will show the West's Fourth International Stereo Slide Exhibition. This is unique. The premier showing of the Mother Lode International Color Slide Exhibition is the main feature of the Saturday night banquet.

Challiss Gore, APSA, a whiz at salon prints, will show photographers the other side of picture taking—"Improving the Family Album." Then for the aspirants to exhibit success comes Edward J. Jacobs' program, "Big, Blue, and Glossy" wet demonstration of blue toning for salon success.

More program to please the Mr. Average Photographer—the great fellows who underestimate themselves by saying: "I'm just a rank amateur," is Claire Webster's "Travelogue Photography." Western Zone Director Floyd Evans, FPSA, will explain the PSA workings in the West. That's not all, there are workshops scheduled—where the experience of questions and answers with the experts leads to problem solving.

Motion picture people will have some of the West's top amateur movies, and demonstrations on taking, editing and projecting movies.

The team of experts from Merced CC, including Sam Blakesley, Howard Thornhill, APSA, Wilbur Robinson and Charles Harris, nationally known for their nature pictures, will demonstrate the know-how that will help you achieve like results.

Models? Yes!, but in addition to the "pretty girl type," some costumed portraits will be possible with Grant Duggins, FPSA, and Glen Fishback, APSA, renowned magazine photo prize-winner, as directors on hand to guide with expressions, camera angles and exposures.

The El Dorado Hotel, Sacramento's newest convention facility, is the headquarters. It is easily reached—two miles north of Sacramento on U. S. 40. First opened in January, 1958, on a modern theme, the hotel offers free parking, four program rooms, movable stage and covered walkways linking all units, which surround an artificial lake.

The San Joaquin Valley CCC is co-operating with the Delta CCC as is the Northern California CCC. Remember the dates—April 18-19-20.

Members and photographers wanting registration forms can write to Mrs. Phyllis Clerihew, Registration Chairman, 429 Forum Building, Sacramento 14.—Warren Westgate reporting.

### News from the Northwest

Participation in the 2nd Annual In-

Editor A. H. Hilton, APSA

Route 3, Box 828, Porterville, Calif.

vitational Exhibit of the Film Pack CC of Vancouver, Washington, featuring monochrome prints and color slides, was extended to twenty clubs in Washington, Oregon and Idaho. Judges for the exhibit included Al Deane, Charles Getzendaner, APSA, and George Kinkade, FPSA. This club is also sponsoring the 3rd Oregon Trail International Color Slide Salon slated in June for the Forest Grove CC of Oregon.

Dr. C. W. "Bill" Biedel, APSA, of the Bremerton CC was selected for the president's chair of the Northwest Council of Camera Clubs. We will be looking forward to the PSA Color Division Membership Slide being designed by Kaye Feagans. Giving away secrets is not the intention, but we hear two "nature" workers are planting fungi cultures in their basement for photographic purposes, since weather conditions have been "unfavorable" lately.

The f67 CC reports the study group in judging is holding extremely interesting sessions. Emphasis is placed on the statements made by the judges and the justification of their scores. A general outline for judging as printed in a past PSA CD Bulletin is followed throughout the exercises.

Prizes, both rewarding and instructional, in the form of popular books on color photography were awarded winners of the slide competition held by the Continental CC.—Phil Brassine reporting.

### Special Meeting

A meeting of all PSA members in San Diego and Imperial Counties, Baja California and including those residing as far north as, and including residents of Dana Point and Laguna Beach, has been called by District Representative, Walter E. Harvey, APSA.

### Colorfoto Club of Reno

A nice article comes to us from John A. Riggs of Reno, editor of the Reno Colorfoto Club Bulletin, telling us how the club was formed, etc. But the interesting part of the story was their participation in the Nevada Highways and Parks magazine in beautiful color.

First, many color photos accompanied a Pyramid Lake story by Art Marston. Then "Wild Flowers of Nevada" by Olga Reifschneider, lavishly illustrated with wild flowers of Nevada, also in color. The pictures were made by members Olga and Laura Mills.

As if this were not enough, the magazine devoted two more full pages of color reproductions of the club's slides.

### Council Activities

The San Joaquin Valley CCC is off to a good start for 1958. At their annual business meeting in January new officers were elected. Sam Blakesley of the Merced CC is the new president, Henry Dillon of the Selma CC, vice president, and Charles B. Harris, secretary. Ralph Cowan of Bakersfield will guide the Color and Ernie Dodd of Fresno the B&W.



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**35mm RF SUMMARON f/3.5**—The only wide-angle lens that provides coupled rangefinder operation and viewfinder with bright-line frame system, fully corrected for parallax. Assures sharp brilliant images without loss of brightness or sharpness at the corners of the picture.



**50mm Dual-Range SUMMICRON f/2**—Extraordinary resolution and outstanding color correction. A lens for general photography which features an extra, close-up focusing range; viewfinder attachment permits rangefinder operation with parallax correction down to 19 inches!



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**135mm HEKTOR f/4.5**—A long-focus lens which "pulls in" sharp detail from far-off scenes. Gives nearly 3 times the image size of the 50mm, with attendant pictorial effect. Ideal for portraits and distant subjects and, with accessory focusing equipment, for life-size close-ups.



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## CANADIANA

### Maritime Philosophy

Halifax's Tim Randall has contributed  
an 8-page article, replete with 12 photo  
illustrations, to the Journal of Education,  
a publication of the N. S. government.

Titled "These trees shall be my banks,"  
Tim writes with the pen of a close ob-  
server of nature's beauty, and the dis-  
cerning eye of a photographer.

A new type of artist is moving to the  
forefront, he points out, and through the  
medium of color slide photography is  
delighting audiences with showings of  
photographs.

While, as Tim remarks, these in large  
measure are generally regarded as enter-  
tainment, they can be highly educational  
and instructive in a pleasant and inter-  
esting manner.

He explains what these shows and ex-  
hibitions do for the photographer. After  
the first thrill of photographing the fam-  
ily circle is over, and a few holiday trips  
have been duly recorded for posterity,  
the photographer becomes increasingly  
conscious of new worlds outside the  
sphere of his experience. Many, inter-  
ested in photography only, have later  
turned to the study of wild flowers, in-  
sects, minerals, precious stones, and a  
variety of other interesting subjects.

It is thus the sensitive soul, artist,  
photographer, or just one who loves sim-  
ple beauty, becomes attuned to nature,  
and hears the voices of the whispering  
trees that clothe the hills.

All of which seems to give reason to  
the recent surge of interest, nation wide,  
in nature photography.

Incidentally, for the second successive  
year, Tim Randall picked off the second  
award in PSA's Travel Slide Set compe-  
tition.

### Travelogue Programming

Slide travelogues seem to be growing  
in popularity as CC entertainment across  
country. Within a single month, Mon-  
tréal, Toronto, Chatham, Sarnia Photo-  
chromatic and Vancouver CC's listed  
travelogues, covering the British Isles,  
Germany, Switzerland, Holland, Italy,  
France, the Channel Islands, Guatemala,  
Alaska and two slide sets of Mexico.

### Vancouver Uses PSA Services

The Vancouver Photographic Society  
cashed in on available PSA services as a  
1958 starter. In Jan. and Feb., the Club  
was entertained by Francis Wu's re-  
corded lecture, "Pictorial Photography  
from the Chinese Point of View"; by  
LaVerne Bovair's "Table Top Tricks,"  
another RLP; and by a showing of 25  
prints by John R. Hogan, under the NW  
Council's arrangement made by Joe  
Bricker.

### Slide Judging

Frank Brown, Ken Cucksey and Grant  
Toll judged 250 slides entered by 42 PSA  
Clubs in the Class B competition, at  
Chatham CC's Dec. meeting.

In club bulletin, Out of Focus, Ken

Editor: Rex Frost, FPSA  
37 Bloor St., W., Toronto

Cucksey writes that the competition was  
top-heavy in outdoor scenics, photo-  
graphed under brilliant sunshine. Be-  
cause they are not so hackneyed, still  
lives, table tops, portraits, abstractions,  
mood shots, bas relief, and solarized pic-  
tures scored high. Often, he adds the best  
color pictures are those using the fewest  
colors.

Words to the wise!

For the first time in as many years as  
your Editor can remember, a Canadian  
CC sat on top of the National Club Slide  
Competitions, Dec. 1957. Niagara Falls  
Color Forum, one of this country's most  
recent additions to the PSA Club roster,  
earned the distinction, in Class C, tied  
with Ware CC, at 102 points, in the na-  
tional standings. Keep going.

### Adequate Notice

CCs who send out Salon entry forms  
just a few weeks before they propose  
staging an International, should observe  
the example set by Calgary, who last De-  
cember mailed personal letters to ex-  
hibitors announcing the July 7-12 dates  
for the 1958 Calgary Stampede Salon.  
They'll feature monochrome, plus pic-  
torial and nature slides.

Charlie Everest, Foothills Color Club  
writes saying the entry forms have been  
given PSA approval by Kohnert and  
Johnson, and will be mailed later.

Calgary Stampede Salons again offer  
silver spoons, a unique departure from  
the more conventional medals given top  
entries elsewhere.

### Hamilton Stereo

Hamilton stereo circuits continue to  
catch on in a most amazing cross-Canada  
manner, showing that Pres. Wm. Harris  
was right when he said that stereo fans  
fans the country over were hungry for  
club activity in this branch of the hobby.

January 1958 edition of Circuit-Master,  
official Club bulletin, finds Harris report-  
ing three new circuits, bringing the total  
to 15, actually operating Halifax to Van-  
couver.

Bob Somers, 35mm circuit master, in  
his column refers to circuit 18 being or-  
ganized, meaning at least 3 more are on  
the way.

In addition three new kinds of stereo  
circuits are being set up. One consists of  
duplicates of all honor slides of previous cir-  
cuits, and salon acceptances. Second is an  
instructional portfolio of stereo slides  
which "just missed the boat by a hair,"  
with accompanying commentary by 3  
HSC members. Third type of circuit, with  
a limited membership of 5, will deal with  
special subject matter of interest to cer-  
tain people.

### Visiting

Frank Heller, of Bartlesville, Okla.,  
was guest speaker at a joint meeting of  
Toronto CC, and the Toronto Guild for  
Color Photography, in a National Lecture  
program, at the Royal Ont. Museum. Full  
house was the order of the evening.



# Recorded Lectures

Seems odd, but here spring is again, and with it that last minute scramble for programs. Programs to be presented just before the "summer recess," that is.

What type of program should that be? Of course, much depends upon the club's likes and dislikes. Nevertheless, certain general types fit into the scheme of things better than others; so the problem is what type to look for.

Since the club's members will be getting out of doors a great deal soon after the program, something on nature would be quite apropos.

Probably your club has speakers on that subject close at hand since that field of photography is becoming so popular. If so, sign 'em up quick.

When you can't be sure of a "live" speaker, then turn quickly to Recorded Lectures. That is what the program was designed for—to provide speakers when "live" ones could not be obtained.

RLP offers many Nature lectures—five of them in fact—and all in color. Take your choice from . . .

- # 8. LET'S TAKE NATURE PICTURES, by Ruth Sage Bennett, APSA.
- # 13. BIRDS IN COLOR, by Warren H. Savary, FPSA.
- # 15. LET'S PEEK OVER THEIR SHOULDERS (by H. Lou Gibson, FPSA and Lou Quitt, APSA).
- # 19. NEARBY AND CLOSEUP, by Dr. B. J. Kasten, APSA.
- # 21. THE CHARM OF MINUTE CREATURES, by Alfred Renfro, FPSA.

For a brief description of them, get the RLP catalog which can be obtained from your area Distributor, or from Mrs. Irma Bolt, Director of Distribution, Woodhull, Illinois.

Write now, though, to make those

May and June reservations. Delay may mean that others will beat you to the punch and your club might be missing a good entertaining evening. Be sure to give the Distributor 3 or 4 choices of lectures and/or dates, as time is getting short.

## PSA CALENDAR

**March 21-23, Reading Pa.** Berks Regional, Abraham Lincoln Hotel. For information: August J. Heidrich, YMCA, Reading, Penn. (See notes below.)

**April 1.** Last day for receiving Honors applications at HQ. Write HQ now for blanks if you have a candidate you wish to nominate. Also, last day for petition nominations for DRs and Divisions.

**April 18-20, Sacramento.** PSA Regional, HQ at Hotel El Dorado. Get information from Dewitt Bishop.

**May 23-25, Toledo, Ohio.** PSA Regional, Commodore Perry Hotel. Registration blanks from Rosemary Elkes, 2626 Cheltenham Drive, Toledo 6, O. (See page 6.)

**June 13-15, Lake Charles, La.** Gulf State Regional, combined with GSCCC Convention.

**Oct. 1-4, PSA Convention.** Silver Anniversary at Philadelphia, Pa. Bellevue-Stratford Hotel. Watch Journal for data.

## Reading Regional Program

The program for the Reading Regional has been made available in time to run it in this issue.

Featured at the Friday night opening will be a talk by Gretchen Goughnour, APSA, "Underneath the Excitement of Color."

On Saturday Drake Delaney will lead off with his "Lazy Man's Approach to Photography". Herbert D. Kynor, Jr., will have a talk on Photo-Journalism. Charles A. Kinsley, FPSA, Executive V.P. of PSA, will head a panel of experts on both color and b&w problems. Robert Darwin will talk on "Underwater Photography" and show a 16mm underwater movie.

Arnold V. Stubenrauch, APSA, will be toastmaster at the banquet and Edward A. Hill, APSA, will be the banquet speaker, his subject "Invisible Motion."

Get acquainted with the thrills of Realist stereo—three dimensional photography. It is the *high fidelity* of 35 mm. photography. "Compared to 35 mm. slides, Realist stereo slides are true to life." See your camera dealer today for a Realist stereo slide demonstration. You'll be amazed at how the realism of 3-D seems to pull you into the picture.

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## PSA Recorded Lecture PROGRAM

The Recorded Lecture Program offers the following programs for your club. Each program consists of a set of 2x2 slides and a tape-recorded commentary, average length, 50 min.

25. **Children as Subjects**, by Dr. John W. Super, APSA. Outstanding slides by the lecturer and others, many of monochrome prints, plus discussion of lighting and posing of children. Mostly it shows how to use children in your pictures, but the interesting illustrations makes this one attractive to the many camera widows too.

18. **Table Top Tricks**, by LaVerne Bovair, FPSA. A master in the art of deception makes models seem like the real thing. Bovair shows and tells how he creates his realistic and imaginative tabletops in both b & w and color. Gather some wire, pipe-stem cleaners, pieces of metal, toy figures, and other odds and ends. Then try to outdo Bovair.

12. **The Language of Pictures**, by P. H. Oelman, Hon. PSA, FPSA. With "PH" now departed from us, this lecture remains as one of his marks of greatness within PSA. In it, he not only shows you many of his world famous nudes, but liberally sprinkles his talk with the masterpieces of others who are great. He is a capable commentator in a program which bubbles over with sly humor, with vital instruction delivered in a painless manner. The "language" of pictures covers all aspects of photography.

7. **Abstractions**, by Sewell Peaslee Wright, FPSA. This lecture is not as "abstract" as its title indicates, and is a fine program for the monochrome pictorialist. "Spee" shows you a new look at the common everyday things around us which can be photographed with imagination. A wonderful opportunity to get a new slant on salon, or club competition, shooting.

For a complete list with full description of all RLP Lectures see the latest RLP catalog.

A service charge is made for each lecture. For clubs which are members of PSA, the service charge is \$5, plus a deposit of \$20 which is returned upon request. Your first order should be accompanied with a \$25 check, to cover deposit and service charge.

Clubs which have not used a lecture and want to order, or want information, or a catalogue should write to:

Mrs. Irma Bolt  
Director of Distribution  
Woodhull, Ill.

## INTERNATIONAL

### International Exhibits

During the past year, we have been telling you what PSA International Exchange Exhibits has to offer you. Perhaps, now you would like to know just what our Service is and how it operates.

The Service is one of the services of PSA set up to serve member clubs rather than the individual member. It is divided into two sections—one devoted to obtaining print sets from foreign countries, and the other set up to collect prints from photographers in this country to fill commitments with foreign organizations. The whole operation is on a reciprocal basis—one of our sets for one of their sets. Most of our program has been set up for three or four years or more, but during the past year requests from Poland and West Germany for exchanges have come in, both of which we were able to fill. In the last year we sent out approximately 410 prints to 10 different countries. The exhibits are usually received unmounted and without any comments, and in order to make them easier to handle and to provide a basis for club discussion, the prints are mounted on standard 16 x 20 mounts, and comments on the prints are written by one of the top pictorialists in the country.

Because we are not associated with any one Division, any PSA member club may request the print sets no matter with what Division they are affiliated. The subject matter is so varied that any worker could find interest in them: nature because of insect, bird, and plant life, pictorial because of the general nature of the prints, photo-journalism for the many human interest pictures included, and color because of the varied designs, patterns, and ideas expressed that stimulate your own imagination and present subject matter that is new and different.

To keep mailing costs at a minimum—and mailing costs to the next club are the only charges for the exhibits—we have three zones: Western, Central, and Eastern, the Zone Distributor and his address is listed in the Service Directory in the back of each PSA Journal. The Distributors set up routes for the exhibits in their Zones not only to meet the dates requested by clubs, but also to keep the shipping distances as short as possible. Requests are received and filled all year long as the print sets are available. Each year in July and August the sets are changed from Zone to Zone so that different material is constantly in use.

I hope you will now have a little better understanding of the scope of PSA International Exchange Exhibits, and that your club will use some of them as program material not only to widen your own interest in the world, but also to help promote better understanding between peoples through a common medium.—Mary K. Wing.

## SOUTH OF THE BORDER

Editor: J. L. Zakany  
V. Carranza 69, Mexico, D. F.

### Chile

Valparaíso's Intl. Salon, sole PSA approved Color Exhibit in South America, was successfully exhibited last Feb. 24th to 24 a Marzo 15.

### Mexico

La Sra. Marguerite Gregory, PSA, exhibidora en color y naturaleza, de Miami, Okla., se encuentra en gira fotográfica de 4 meses, desde enero, por el México Central, en remolque, con Guadalupe como centro de operaciones. . . . Basándose en el sistema de juzgar concursos de clavados, el CFM experimenta con 5 jueces, tachando la calificación más alta y la más baja, totalizando las restantes, tratando de eliminar favoritismos y discriminaciones. . . . R. Cacheaux, APSA, Co-Editor, reporta: J. L. Zakany figura en el Jurado de la Exhibición Internacional de Transparencias del California Mother Lode, que se exhibirá en Auburn en Abril, y sustentará una conferencia sobre "Montajes y Duplicados de Transparencias y la Creación de Montajes por Medio de la Duplicación," en la Convención Regional de la PSA, de la Costa del Pacífico, que se celebrará en Sacramento, Calif., Abril 19 y 20. Se cree que es el 1er Mexicano en juzgar un Salón de EE. UU. y en conferencias ante una Convención de la PSA. . . . Los Directivos para 1958 del CFM, electos en enero por la Asamblea General de Socios, son: Fernando Alvarez Bravo, Presidente; José Manuel Villalvazo, Vice-Presidente; F. López Alvarez, Secretario; Lic. Enrique Ramos Valdéz, Sub-Secretario; Antonio Ollé Vilar, Tesorero; y Félix Domínguez, Sub-Tesorero. A cargo del Boletín del Club, quedaron como Editor, el Ing. Mario Sabaté y como Administrador, José Turu. La Comisión de Honores del CFM, decidió no conceder honores este año.

### Chile

El VII Salón de Valparaíso con la única Sección de Color aprobada por la PSA en Sud América, se exhibió con éxito de Feb. 24 a marzo 15.

### Mexico

Mrs. Marguerite Gregory, PSA, color & nature slide exhibitor from Miami, Okla., is on a 4-months picture-taking jaunt, since Jan., thru Central Mexico by trailer, with headquarters in Guadalupe. . . . Taking a cue from diving contests, CFM is trying a 5 man judging system, with high & low scores eliminated, totalling the remaining 3.

## The PSA Traveler



Headed for the Southwest? You'll find these saguaros are quite common. With just a little looking you'll find nice groupings like these "Three Old Warriors." These are in the Saguaro National Monument, just 12 miles from Tucson, Ariz.—Peggy Spotts, APSA.

It is hoped to do away with discriminatory judging. . . . R. Cacheaux, APSA, reports: J. L. Zakany is on the Jury of "California Mother Lode Color Slide Exhibition," to be shown next month at Auburn, Calif., and will lecture on "Slide Mounting & Duplicating and Creation of Montages Thru Duplicating," at the PSA Pacific Coast Regional Convention, to be held April 19th & 20th, at Sacramento, Calif. He is believed to be the 1st Mexican to judge a U. S. Salón, and to lecture before a PSA Convention. . . . 1958 Directors of CFM, elected at the Jan., Membership Meeting, are: Fernando Alvarez Bravo, President; José Manuel Villalvazo, Vice-President; F. López Alvarez, Secretary; Lic. E. Ramos Valdéz, Assistant Secy.; Antonio Ollé Vilar, Treasurer; and Félix Domínguez, Assistant Treasurer. In charge of the Club Bulletin, Ing. Mario Sabaté remains as Editor and José Turu, as manager. CFM's Honors Committee saw fit to confer no honors this year.

• How many times have you carefully lined up the verticals of a building when enlarging only to discover on examining the print later that they were slightly out of plumb?

A simple way to be sure of verticals that are really vertical is to use a small draftsman's triangle.

With one edge firmly pressed against the top guide of the easel, project the image and shift the easel until the vertical line in the picture coincides with the vertical line formed by the triangle.

Urban M. Allen

## Nominations for District Representatives

The balance of the list of nominees for PSA offices is given below. These are the District Representatives, one or more to a State, who constitute an important part of our National Council.

This list has been prepared by the National Nominating Committee under the Chairmanship of John Mulder, FPSA.

Additional, or petition nominations may be filed by any group of ten or more members in good standing by transmitting such a petition to Headquarters or to the Secretary of the Society. It must be signed by each of the petitioners and must be accompanied by a statement signed by the nominee that he accepts the petition nomination and if elected will serve the two-year term. The nominee and all petitioners must be individual members of PSA.

In the listing which follows, the Districts are listed alphabetically by Zones, and after each State is a number indicating the number of DRs to which it is entitled. \*denotes incumbent.

### Eastern Zone

CONNECTICUT (1)  
E. Ward Hutchinson, Sharon.\*  
DELAWARE (1)  
Jos. De Courcelle, Wilmington.\*  
DISTRICT OF COLUMBIA (1)  
Ollie Fife, Alexandria, Va.  
FLORIDA (1)  
John Montgomery, Orlando.\*  
GEORGIA (1)  
Everett Saggus, Elberton.\*  
MAINE (1)  
Gertrude McKusick, Derby.  
MARYLAND (1)  
Ben Cooper, Baltimore.  
MASSACHUSETTS (2)  
Richard C. Cartwright, Milton.  
Wm. J. Barrett, Adams.  
MICHIGAN (2)  
Lyall F. Cross, Wyandotte.\*  
Maxine E. Fuson, Grand Rapids.\*  
NEW HAMPSHIRE (1)  
Mrs. Carol Foster, Nashua.\*  
NEW JERSEY (2)  
Mort Goldman, Toms River.\*  
Catherine Coursen, E. Orange.  
NEW YORK (3)  
Alfred B. Harrott, Binghamton.  
Doris Offerman, White Plains.  
Barton King, Niagara Falls.\*  
Boyd Little, Homer.\*  
Lowell N. Miller, Rochester.\*  
George W. Parker, Albany.\*  
Harry Baltaxe, New York City.  
Eileen Widder, Forest Hills.  
NORTH CAROLINA (1)  
Robert R. Beattie, Jr., Charlotte.  
OHIO (3)  
C. W. Bostain, Cincinnati.\*  
Dan Fulmer, Columbus.\*  
Mrs. Georgia Roper, Toledo.\*  
PENNSYLVANIA (3)  
Ray O'Day, Philadelphia.  
Gretchen Goughour, York.\*  
Roy R. Mumma, Pittsburgh.

PUERTO RICO (1)  
Dr. Hector Hidalgo†  
RHODE ISLAND (1)  
Frederick Heeley, Edgewood.\*  
SOUTH CAROLINA (1)  
Clayton O. Webster, Sumter.\*  
VERMONT (1)  
Edward A. Underhill, Bellows Falls.  
VIRGINIA (1)  
Frank Noftziger, Roanoke.\*  
WEST VIRGINIA (1)  
George L. Ballentine, Charleston.

### Central Zone

ALABAMA (1)  
Finis McCluney, Jr., Gadsden.\*  
ARKANSAS (1)  
Dr. L. A. Whitaker, Fort Smith.\*  
ILLINOIS (4)  
Glenn E. Dahlby, Evanston.  
Mrs. Elsie Rayfield, Chicago.\*  
J. Harry Boulet, Jr., Chicago.  
Clarence Einhaus, Quincy.  
INDIANA (1)  
William J. Conwell, Elwood.  
IOWA (1)  
W. H. Shorey, Davenport.\*  
KANSAS (1)  
Henry V. Schott, Wichita.\*  
KENTUCKY (1)  
Dr. T. Norbert Kende, Louisville.  
LOUISIANA (1)  
James Ganucheau, New Orleans.  
MINNESOTA (1)  
John Sherman, Minneapolis.  
MISSISSIPPI (1)  
William Bacon, Jackson.  
MISSOURI (1)  
John S. Jenkins, Kansas City.  
NEBRASKA (1)  
Sten Anderson, Lincoln.\*  
NORTH DAKOTA (1)  
Dr. Fred A. Maides, Grand Forks.\*  
OKLAHOMA (1)  
Clark H. Hogan, Oklahoma City.\*  
SOUTH DAKOTA (1)  
J. W. Fox, Sioux Falls.\*  
TENNESSEE (1)  
Thos. Craig, Nashville.\*  
TEXAS (2)  
O. F. Metz, El Paso.  
L. E. Stagg, Jr., Beaumont.  
WISCONSIN (1)  
Donald K. Mereen, Brookfield.  
CANAL ZONE (1)  
Frank Farrell, Cristobal.

### Western Zone

ALASKA (1)  
Dr. Russell C. Smith, Petersburg.\*  
HAWAII (1)  
Urban M. Allen, Honolulu.  
ARIZONA (1)  
Bruce Cole, Tucson.\*  
CALIFORNIA (7)  
Dewitt Bishop, Sacramento.\*  
Bosworth Lemere, Carpinteria.  
Leo S. Moore, Culver City.\*  
Walter E. Harvey, La Mesa.\*  
Dr. Guilford Soules, San Francisco.\*  
Elsworth Fiscel, San Bernardino.  
Ellis Rhode, Berkeley.\*

COLORADO (1)  
James Milmo, Golden.  
IDAHO (1)  
Don E. Haasch, Boise.\*  
MONTANA (1)  
Lyle E. Downes, Butte.\*  
NEVADA (1)  
John Tellaisha, Reno.\*  
NEW MEXICO (1)  
Robert W. Hall, Albuquerque.\*  
OREGON (1)  
Charles Getzendaner, Forest Grove.\*  
UTAH (1)  
Mattie C. Sanford, Salt Lake City.\*  
WASHINGTON (1)  
Hale Van Scoy, Yakima.\*  
WYOMING (1)  
Gere Kruse, Laramie.

### Canada

BRITISH COLUMBIA (1)  
Stanley C. Dakin, Nanaimo.  
ALBERTA (1)  
Nicholas Ochotta, Edmonton.\*  
SASKATCHEWAN (1)  
Frank E. Mould, Saskatoon.\*  
MANITOBA (1)  
Ed. Matthews, Winnipeg.\*  
QUEBEC (1)  
Frank Simard, Montreal.  
MARITIME (1)  
William Wood, Halifax.  
ONTARIO (1)  
Cliff Pugh, Toronto.

★ ★ ★ ★ ★ ★ ★

### NATURE DIVISION

#### Award of Merit

★ ★ ★ ★

Edward H. Bourne

★ ★ ★

Harold E. Berry	Blake E. Nicholson
George Brewster	Therese Whiteside
Lenore Bliss Hayes	David H. Williams
Emil Muench	Louis B. Ziegler

★ ★

J. H. Arrieta	William W. Hawkins
H. S. Barsam	Naomi H. Hayman
Barrie H. Bieler	L. M. Parker
Florence R. Bittman	R. E. Schortmann
James E. Doolittle, Jr.	O. F. Stewart
Richard M. Garrod	E. A. Woodle
	W. A. Wren

★

William J. Barrett	Jack C. Novak
Ralph E. Cowan	Mel Olmstead
John F. Kahle	Clark Sager
Worth L. Kimball	Jeanne R. Silbert
W. B. Maranville	Olive L. Smith
J. W. Melton	F. F. Weinard

★ ★ ★ ★ ★ ★ ★



Iris Parade

*From the 8th Southwestern International*

Frank C. Markley

*"PSAers In Pictures"  
will be back next  
month as the stock  
fills from the pipe-  
line. Keep sending  
them in!*

#### PJ Assignment Contest #1

Assignment: "Newspapers" (daily or weekly), from 1 to 6 photos, 8x10 to 5x7 dealing with the part the newspaper plays in our daily life.

Suggested ideas: who sells the paper, where and how is it read, what happens to it after it's read? Any PSA member may enter, no fee for PJ'ers. All others send \$1.25 entry fee (which entitles entrant to benefits of Division for one year, including future contests during year). Photos must have captions attached to bottoms of prints. Name and address must appear on backs of prints. None returned unless return post-

age and addressed mailer are included. Deadline April 20, 1958. Send entries to Dr. Thomas Palmer, 12 Interlaken Drive, Eastchester, N. Y.

#### This is photography!

This item is quoted from a caption in the MPD News Bulletin as an example of the complexities of modern photography.

"These illustrations are made from slides made on Kodachrome with an Exacta camera, equipped with a Zeiss Biotar lens and using Graflex electronic flash. They were copied with a Leica, using a Visoflex and a Hektor lens, on

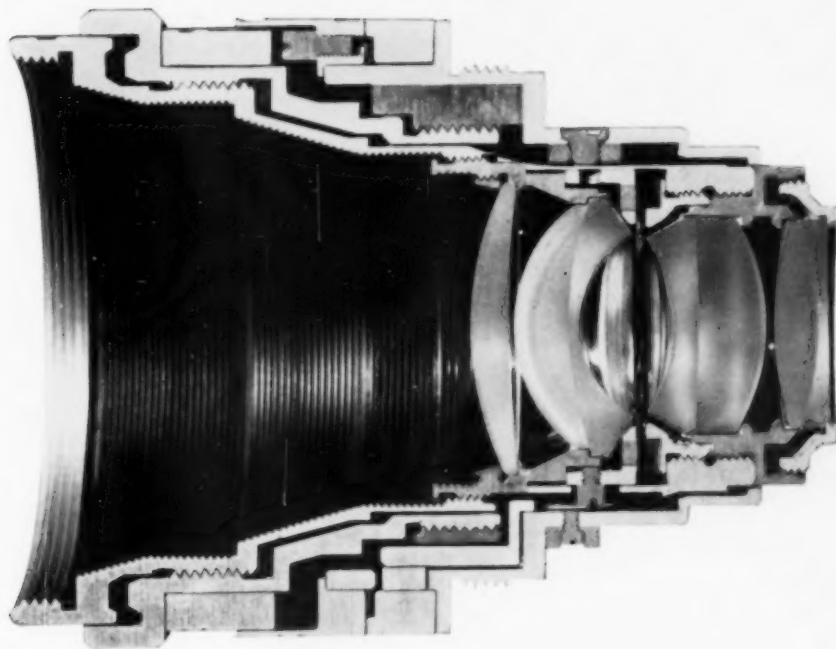
Tri-X film developed in Clayton P-60, fixed in Edwal Quick-Fix, printed on Ansco Cykora paper processed in Kodak Dektol developer. The enlarger was an Omega with an Ektar lens. What happened at the print shop and whose products were used, we don't know."

#### Error

In preparing the caption for one of the pictures on page 16, February Journal, we misread the information and credited Hal Davidson with winning, when he was merely acting as agent for Jim Cornwall whose "Hallelujah" did win. Hal is secretary of Jim's portfolio.

PSA JOURNAL





## HOW KODAK RARE-ELEMENT GLASS GIVES YOU **MORE LENS** FOR LESS

Here you see a superb example of precision optical engineering and glass chemistry. It's a cross section of a 25mm *f*/1.4 Kodak Cine Ektar Lens.

Because certain lens elements are made with Kodak rare-element glass, you get a better lens for less money than you would otherwise have to pay. This is because Kodak rare-element glass simplifies lens design and construction.

The glass is called "rare" because it contains such hard-to-find elements as lanthanum, zirconium, and tantalum. Sand or silica, the basis of all other glass, is not used.

At first, rare-element glass was developed by Kodak for scientific uses where extremely fast lenses with a

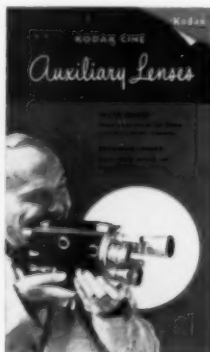
high degree of precision were required. Kodak physicists and optical engineers then found that the high refractive index of rare-element glass not only permitted fairly shallow curves, but that the formula so minimized aberrations that it permitted needle-sharp images with fewer elements in a given lens.

The shallow curves permit a saving in production costs that counterbalances the expense of "rare element" materials. Thus it is possible to make a lens of superior design using fewer glass parts and at modest cost.

As a result, lenses with rare-element glass are being used today in medium-priced as well as in the more expensive Kodak cameras.



Rare-earth glass is melted in pure platinum crucibles, because there must be no possibility of contamination by impurities from the crucible itself.



For more information about Kodak Cine Ektar Lenses, write to Kodak, Dept. 8, for a free copy of lens booklet No. C1-6. It describes and prices these superb lenses, 15mm to 152mm, the finest ever made for 8mm and 16mm filming. Better still, call on your photo dealer and inspect them.

**EASTMAN KODAK COMPANY, Rochester 4, N. Y.**

**Kodak**  
TRADE MARK





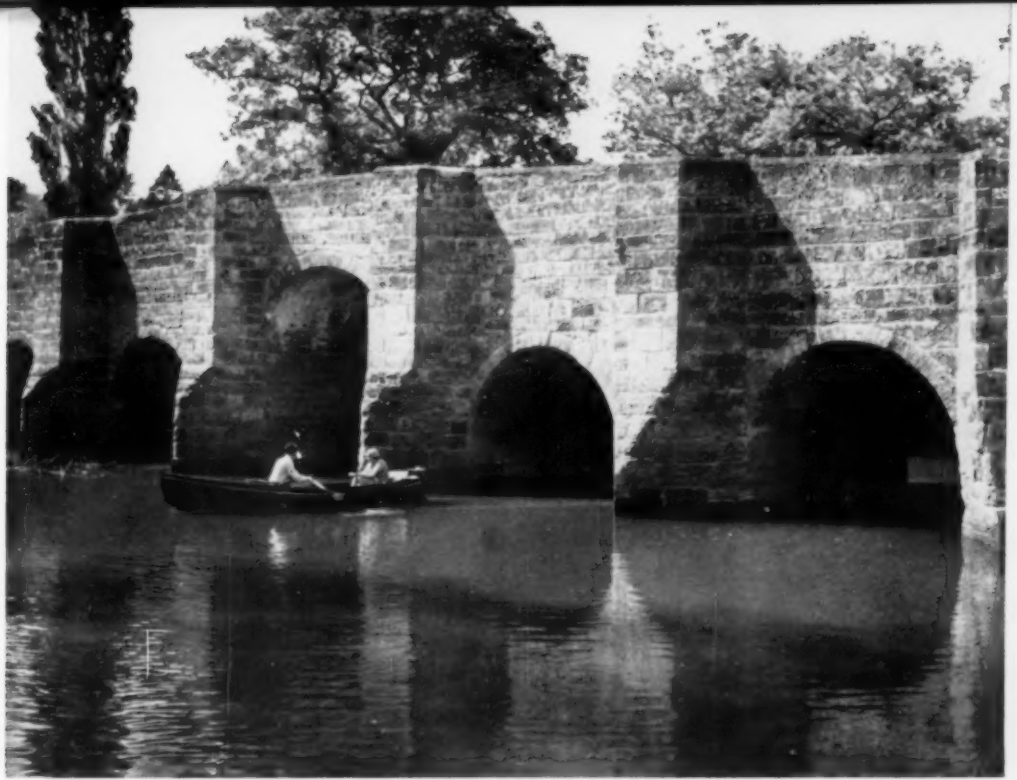
This Other Eden—near Lynton, England, 1937. A most successful salon print.

## *Twenty Years After*

*By Barbara Green, FPSA*

BARBARA GREEN should be too well known to require introduction to any PSAer. We can't say she is a young lady because she herein admits to a silver wedding anniversary, but we can safely say she is youthful. To that we could add beautiful, gracious, kind and always ready to help. She has been a prolific exhibitor in monochrome, now is tackling color printing with zest. She writes, judges, teaches, travels, lectures and takes pictures. Her friends are legion.

Never mind working on satellites to reach outer space. I wish the scientists would conjure up something which would allow us to be two places at once, on this earth. For I wanted, desperately, to be along the banks of the Seine and the Mississippi, at the same time, last October. It was the first convention I had missed in years. But, a twenty-fifth wedding anniver-



An English Idyll—near Worthing, England, 1937. A salon print.

Along the Seine—Paris, France, 1957.





A Wave in Spain—San Sebastian, 1957.



Design For Living—Arles, France, 1957.

The 1957 pictures were made on Kodacolor negative film and printed on Panalure, the new panchro paper described in the Journal last month. Most of the 1937 Pictures were made on a Zeiss Ideal B, on tripod.

Symbol of Faith—Lourdes, France, 1957.

sary doesn't come along every fall—and my husband and I decided to celebrate it with a return trip to Europe—twenty years after.

I stalked salon prints, in 1937, with six months to do it in—going over on a freighter and tramping four hundred miles with a knapsack. Two cameras, bought in Germany—a Rolleiflex and Zeiss Ideal "B" (with one lens,) a Bewi meter; wooden tripod; a suitcase full of slow, ortho film—that was all we toted, then. One exposure, most of the time. Why did I need duplicates? I had just what I wanted with one negative, didn't I?

Ah, youth and its naivete! This time, with four weeks at our disposal, we flew. No pictures of waves breaking over the bow of the ship (taken before by my non-photographic, sea-worthy husband.) But, creating a list to aeronautic starboard with my equipment, I did manage to capture the dawn sun on the whirling propellers, with a color slide titled SPUN GOLD. My equipment in 1957? Showing great restraint, by leaving both old cameras at home (I often wished for the "Ideal" with its rising front and swing-back, and the Rolleiflex, circa 1937, which could have been filled with Ektachrome or Super Anscochrome.) I swung into action with the following: A newer Rolleiflex (heavier than the old.) A spanking-new General Electric meter (ditto.) A three-year old Exakta, with a 58 mm lens; 35 mm lens, 85 mm lens and a 135 mm lens. Of course, one's "action-swinging" may not be of the most rapid, with all this, plus films with different ratings. But again, as the French would say, "C'est la vie, madame,"—or, "What would you expect?" Being laughed at, you can expect, for looking like a burro!



I solved the choice-problem of black and white or color, by filling my bag with 25 rolls each of Daylight Kodachrome and Kodacolor. Plus a few rolls of Type F, for night shots, new Super-Anscochrome for cathedral interiors, and a Whitehall Travelite tripod. All I needed was a sunshine kit, plus the following admonition: "Register all foreign-make cameras and lenses before leaving the country." No matter who says it isn't necessary, it will save time and breath and explanations, upon returning.

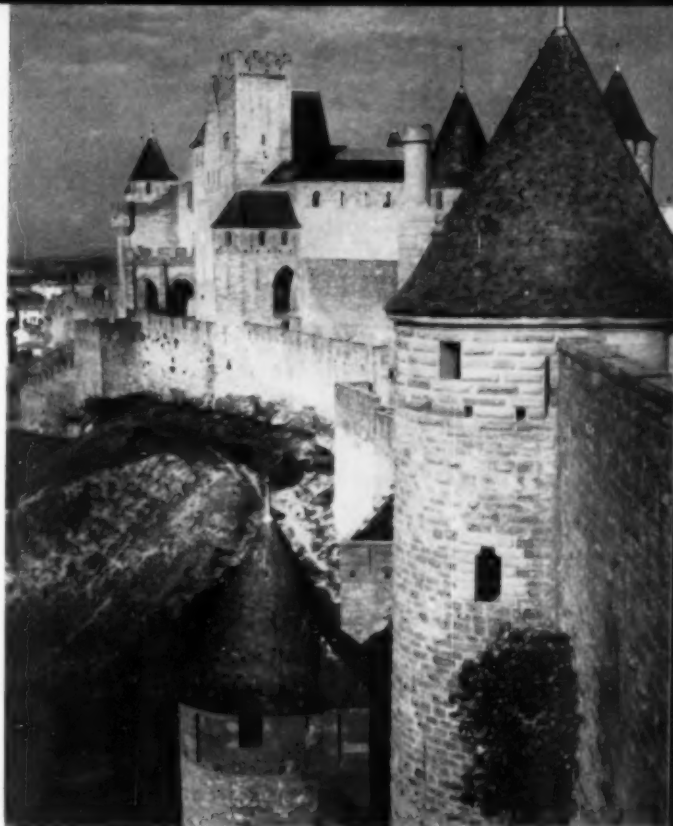
Another piece of good advice is "travel light." This is one we heeded. Our two suitcases weighed 20 pounds apiece. Dacron and nylon clothing meant we could carry 25 pounds of photographic equipment and still make a purchase or two.

The annual salon was hanging, when we visited The Royal Photographic Society's headquarters—a beautiful old house at Prince's Gate, in London. Only 142 prints were accepted—about one out of eight. "The show is modern, this year," people said. It was quite different from twenty years ago; not so many misty morns; more pattern and design. Print entries outnumbered color slides, this year, two to one. Color is still too costly for the average amateur, abroad. On the other hand, Maurice Tabard, APSA, France's Honorary Representative for PSA, who lives in Paris, told us his work (on one of the big fashion magazines) is wholly color, now. And, just as the French were using monochrome montages in their advertising, in 1937, now there are many color derivations.

As I shall probably live and die a pictorialist, to me there's no difference between shooting color or black and white. (Or in judging same, I might add.) On our trip through southern France, I still found myself falling in love with a beautiful landscape, or thirty foot waves in Spain, or the fairy book towers of Carcassonne. I can eat my cake and have it too, with color slides *and* black and white prints made from color negatives. One of these days, surely, I'll be adding color printing. Each medium has its place and I wouldn't want to choose just one.

One thing I've learned, in twenty years—if you think you have something good, take three of it, *at least*. One, you may exhibit; one, you'll want to show to friends; while the third might come in handy for an imaginative montage. Well, you really *do* need a fourth. It might be sandwiched with number three. And a fifth, in case one has a scratch, or blob, or blur! "How will we know, when we have the 'something good?'" you ask?

Engineers of the world, unite! Design the one thing more, which travelers need: A gadget which will recognize the perfect picture for us—a gadget which will nudge us at the decisive moment—and signal SHOOT.



Storied Walls—Carcassonne, France, 1957.

Antiquity For Sale—Broadway, England, 1937.



# Save That Film!

By George Merz, APSA, FACL

*Here is another of the excellent talks presented at the 1957 PSA Convention, for those who couldn't be there, or as notes for those who were. And it is a double-barreled title, really two stories in one dealing with saving a film physically and dramatically, with proof that both ideas work.*

"Save that Film" can be broken down into two parts. No. 1 pertains to the physical and No. 2 applies to the entertainment value of the film.

Much has been printed and much has been said in the past that is allied to the subjects, but to that I will add something that I do not think has come your way and which will benefit some if not most of you.

Some of the older and elementary things I will mention meant something to you when you first heard or read about them, and no doubt you have pursued the practice of applying them to your movie making routine or habits. But then there may be among them some little thing that you haven't been doing, and a little reminder such as this could tend to put you back on the beam. If any of these new ideas improve your movie making technique, if any reminders of old ways help, please consider that an old reminder and some new thoughts were worth listening to.

The title, "Save that Film," as the name implies, could mean at first thought saving a film from deterioration as a result of poor handling, storing, scratches, torn perforations and any number of ruinous elements which would be brought to mind by the title. But there are ramifications beyond that which come within the scope of the title "Save that Film," and upon which I will dwell.

At the outset I would like to say that I will be showing you pictures of a camera and projector of certain manufacture. I am almost certain that what I am demonstrating on that equipment can be done with that of most other manufacture.

Over the years through experimentation with the problems as they presented themselves, I have come upon many ideas in successful film handling. As a result I have made many mechanical improvements as is attested to in many articles pertaining to them that have been published. These I have written in the past for Movie Makers magazine as well as several for the PSA Journal.

Beginning with your camera. It is a nice, neat, piece

of equipment and when you open it to load film it looks beautiful inside. But how many take the trouble to do a cleaning job before loading the camera? Particularly around the aperture and the pressure shoe? (Of course, those using magazine loading cameras do not have so much of a problem there.)

Not only is it essential to see that those parts of the film transport mechanism are free from tiny particles of dust that accumulate at those places, but it is just as important throughout the inside casing of the camera. If you let that go too long, you will most likely see tiny specks of something or other lying in the corners and crevices which could be scrapings from the edges of the film rubbed off while passing through the mechanism. These particles could very easily find their way to the film transport mechanism where your first scratches could occur.

I never load my camera without first taking out the film pressure shoe (fig. 1), then clean it on my sleeve



1. Camera film pressure shoe, part of the "gate," where dirt and horn-like piles can form and scratch the back of your film.





2. A light polishing keeps the shoe clean.

(fig. 2), or some other part of my clothing and examine it before I put it back, for it is on that piece that the full width of the film frame slides along, frictionally speaking. Let one of those particles stick to the shoe—well at least you couldn't blame that scratch on your editing equipment nor your projector. It is also just as essential to clean every corner and crevice inside your camera with a stiff brush (fig. 3).

Next the editing table.

How many, before putting a film through the viewer, clean all there is between the rewinds? That includes the transport mechanism of the viewer, the splicer, and the board itself where the film sometimes touches when there is momentary slack in the film between reels. It is also smart to keep the board or table clean beyond the rewinds for it sometimes happens that the reels free-wheel and allow the film to unwind and drag along on a dusty part of the board or table, and there a scratch is born.



3. A brush in every crevice fights dust.

On my action viewer, I have eliminated all frictional surfaces by substituting idler film rollers over which the film is carried while viewing, to the point that no dust accumulating on any parts of the mechanism could produce a scratch. There is now no longer any frictional surface for the full width of the film. From edge to edge, the film is constantly carried over these moving rollers.

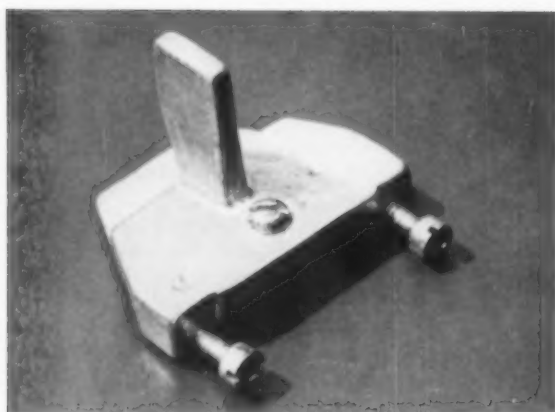
Another item to consider for preventing scratching of the film is the little emulsion that is scraped off for the splice. I'd like to wager that 50 per cent or more of those assembled here, use the dry method of scraping for the splice. That is fine if you had at your splicer a small vacuum cleaner nozzle to suck up that dry powdered fine stuff that you scrape off. By brushing it off before you applied the cement, you would be scattering it in all directions and very likely some of it would light on the film frames close by to the splicer.

In my procedure, I use a small, soft-hair lettering brush (the dime store kind) to wet the emulsion for the width of the splice; make the scrape and with a stiff little brush (the electric shaver variety), I quickly remove the scraped off emulsion that clings to the film at the splice area. At this stage the scraped emulsion is still damp and has had no chance to fly around as the dry scraped dust would have done. The wet emulsion system also prolongs the life of the scraper tremendously. Only recently have I replaced the scraper blade that has been scraping all of my splices for the past 6 years, and I have been averaging about 4,000 feet of film a year.

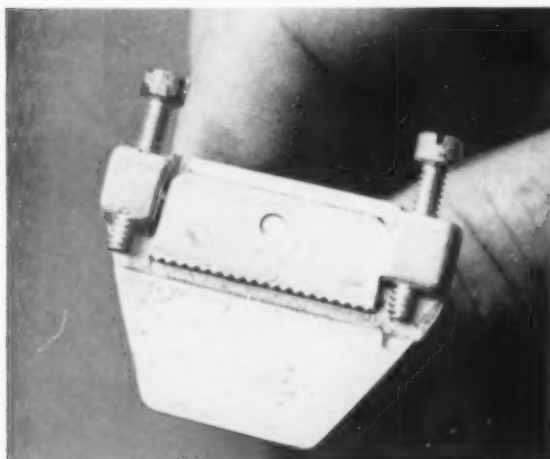


4. A typical splicer. Keep it clean, too.

Another reason for getting such life out of a single scraper blade is due to the type of scraper I use. I designed and made this one which has adjustments on it that will permit the operator when scraping to remove only the emulsion. If it were less than a half a thousandth of an inch thick, *that's all it would take off*; thereby retaining the full thickness of the basic film stock after the scrape, subsequently preventing the film from becoming weak at the splice. Weakness is often found on some films where there was no control to govern the thickness to be scraped off, as when a single bladed scraper is used or a file or a razor blade



5. The Merz scraper, adjustable to a hair.



6. Action side of the Merz scraper showing depth regulating screws and scraper blade.

or an emery board, or, in other words, by free-hand scraping promiscuously.

This gimmick is absolutely foolproof for I can scrape until tomorrow noon time and I will not have taken a particle more off than just the thin emulsion.

It is that hard basic film material that you dig into with other scrapers that makes not only a lot of hard dust but dulls your scraper or whatever implement you may be using.

In fig. 4 the scraper is shown in action scraping the emulsion off for the splice in a regular forward and backward movement over the splicer anvil.

Fig. 5 shows the back view of the scraper and the finger grip.

Fig. 6 is a front view of the scraper, the business side. The set screws you see at each end just beyond the scraper blade can be adjusted so the bottoms of the screws are set only the thickness of the emulsion below the working edge of the file-like blade. It is these screw bottoms that touch and ride back and forth on the splicer anvil allowing only the emulsion to be removed. When properly adjusted no part of the basic film stock will come off.

The blade used here is an ordinary replacement blade used on various splicers.

You may avoid torn perforations by taking up slowly any slack in the film between reels both at the editing table and on the projector. A sudden take up either way could cause harm.

Another element—and here is one so little spoken or written about. How tight do you wind your film?

After a showing I rewind my film very tight. I have installed on my Bell & Howell rewinds a little bracket with a set screw to regulate the brake pressure. (fig. 7.) I have fastened this bracket on the rewind stand to apply any desired pressure to the brake lever. That brake lever is part of the rewind. By this means I apply uniform tension to the brake shoe without having



7. This screw sets brake tension on rewind.

to hold the brake lever while rewinding, and by so doing I can automatically wind my film very tight.

Very often I have received films for a program that were so loosely wound on the reel (received in this condition even from advanced filmers) that they offered a genuine nesting place between coils for dust to settle. This hazard of loose film also creates a potential scratch maker for, when the next person views or projects it, the opportunity for slippage while unwinding or handling the film is so great that scratches could not help but get on the film.



8. Small paper clip holds film end to maintain the tight wind that keeps dust out.

Even if you do not have Bell & Howell rewinds with the brake arrangements, plenty of hand pressure (using a pad to avoid cut fingers) on the unwinding reel will serve just as well.

Using adhesives or tapes of any sticky nature for holding the leader of the film down tight on the wound film, has its drawbacks in that it leaves on the film surface a bit of stickiness which could pick up dust and dirt. After years of grief with this sticky problem, I came upon the idea of holding the leader tight to the wound film on the reel with just an ordinary small size paper clip. (fig. 8) From then on no more trouble with stickiness which required occasional cleaning of the film with carbon tet—not only where the tape was fastened but for some unknown reason, on the loops beyond, traces of it would be found. (Strong paper tape with a string end can be purchased from motion picture supply houses.—Ed.)

Now to keep scratches caused by projection handling off your film!

I need not go into detail about telling you to keep your gate mechanism clean. That is old advice and I believe everyone here takes as much precaution as he knows how to prevent scratches from forming by brushing out the accumulation of foreign matter around the aperture plate and the pressure shoe of the projector.

But is that enough? Especially since we have magnetic sound striping. Certain striping has a tendency to leave quite a bit of that brown powdered iron oxide clinging to the plate and shoe after a film has been projected. It is now more essential than ever before to keep the gate mechanism clean.

However, even before the advent of magnetic striping, I developed a method of cleaning my projector gate—a method that has paid off in no scratch dividends over and over again. It is a very simple method and I shall illustrate it.

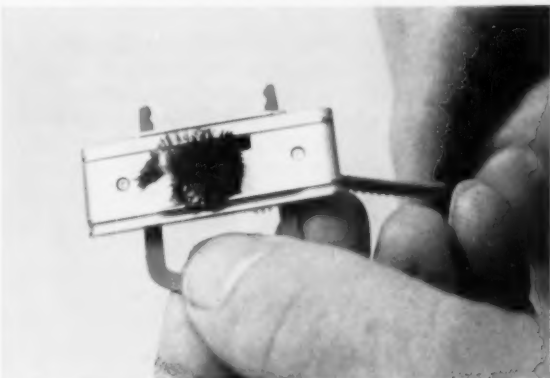
I use a Bell & Howell 202 Magnetic Projector and what I do I am sure can be done on any other make of projector as well. On the Bell & Howell a thin condenser lens is located very closely behind the film aperture plate (fig. 9). This condenser is removable for the purpose of cleaning its lens elements. In the picture my finger is pointing to it.

Whenever I put a reel of film on the spindle to project, even if it is but 50 feet, I go through the same ritual of cleaning the gate as if it were a 2000-foot film. The routine is as follows: I remove the pressure shoe, hold it toward the light, scrub it with the stiff round brush furnished with the projector (fig. 10)—both the face of it and through the aperture. Then I replace it, but keep the gate open as when threading the film through the gate. After that I get the greatest benefit of my projector cleaning in that I put the projector to work under its own power to clean the rest of the gate mechanism.

I do that simply by starting the motor and withdrawing the condenser about 90 per cent of the way as you see it in fig. 11, thereby allowing the air pressure of the cooling fan to come through the aperture to



9. If condenser lenses are easily removed clean them, too.



10. Not a Fiji Islander! A cleaning brush removes those waving fronds of lint and hair from your screen.

blow away any dust or foreign matter that is being loosened as I briskly move the same circular brush up and down between the aperture plate and the pressure shoe (fig. 12). Of course, the projector is running all the time and the film transport claws are moving up and down. No damage can result to the claws so long as you keep the metal stem in the center of the brush from touching the claws. I have been using this method for eleven years and never experienced any damage.

You will get quite a surprise, when you switch on the projector lamp at the same time that you start the motor and fan, to see the amount of dust that is being blown away in the beam of light from the gate as you move the brush up and down to loosen it with the condenser almost all the way out as shown. Generally I remove the projector lens during this operation so the fine dust doesn't settle on the rear element of the lens.

To prove my point in what I have just told you, I projected a film following my Convention talk on which nary a scratch was seen. That film, made in 1946, was the first 16mm film I made after switching



11. Pulling this condenser lens partly out provides a blast of air through gate. (Remove lens first.)

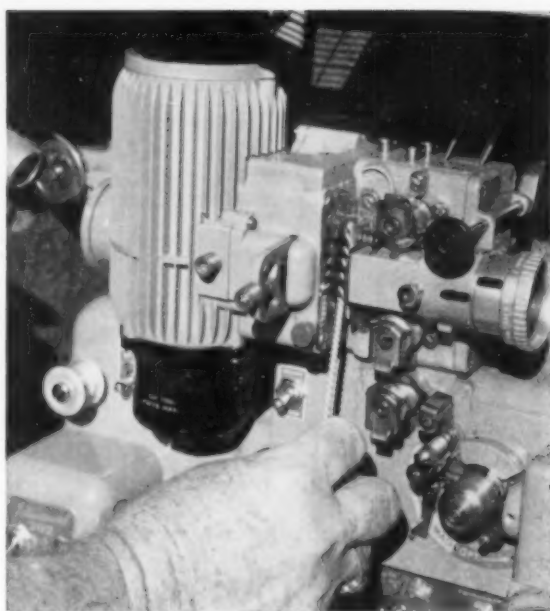
from 5mm. Yes, it is eleven years old and has been projected about 200 times to audiences of all kinds in many parts of the country. It was projected by myself at all times. The film is titled "THE SPLENDORS OF THE NORTHWEST." I am very proud of the achievement of saving that film from scratches and give full credit to my method of cleaning the gate mechanism, and camera and editing handling as I have outlined it here.

I could go on with a number of other beneficial processes which I could tell you about, but space will not permit, so I will go on with the second phase of this program of "Save that Film"; the entertainment value of a film.

Do you get the most out of your filming? Does your film hold the audience interest it should?

Of course, uppermost and of great importance, are proper focusing and exposure which with your cameras you should get. The adjustments for those two "musts" are more or less the same on your camera as they are on the cameras of the experts. The trick is in getting the most out of it. The adjustments are there, the colors are on the film, the exposure meter tells you how much light and your critical focuser (if you have one) tells the rest. If you don't have any critical focusing arrangement on your camera, then your judgment for distances should not be too far off. So I will forego any remarks on these subjects and confine my talk to the story value of a film and its impact upon the audience.

But do your films carry a story—be it a documentary, or a travelogue that would be attention arresting? Do they keep the audience interest alive with good continuity? Do they have enough human interest? Do they have the proper transition shots in between sequences? Are there enough close-ups and audience reaction shots to support the story that your film is supposed to tell? Or do they, as we very often see, have beautiful scenery and perhaps good exposure but are lacking in



12. As the gale blasts through the aperture, the brush loosens the lint and dust. (If you have your lens out!)

good sequencing with a lot of unrelated shots, repetitious shots, un-candid shots or poor camera handling?

So you see the title "Save that Film" has many ramifications and here is a poorly executed film could be made into a hit—be it a circus film perhaps where you have shot all of the acts including the animal acts, the clowns, the aerial acts, the tight rope walkers and the many others, or a simple home film. In all of this shooting your camera handling could be superb, you've made good titles or you've photographed one of the posters heralding the coming of the circus for your title. You've done a good job of editing the film; the shots are in proper order as you had taken the show as it progressed with one act after another BUT twenty or twenty-five minutes of that film could prove boring to your audience. Why, you ask? Because you were so busy taking the shots of all the acts that you didn't think of turning the camera around to get the reaction of the audience up in the stands; the soda pop and souvenir hucksters, and any number of other cutaway shots of the audience and surroundings about you, that would have been needed to round out a good picture story of the circus.

I did just that. Shot all the acts and nothing else. About 1949 I shot 600 feet of the Shrine Circus that was playing in the Orange Bowl in Miami. It had many high-class acts of all kinds; the day was perfect; bright sun, blue sky, big crowd and an excellent opportunity to make a fine film. What more could one want? If anything were to go haywire it would be my own fault.

I started by shooting the huge Orange Bowl from about two blocks away for the introductory shot; followed with a close-up of the customers going through the gates; inside I positioned myself in the stand where



I would have the sun on my back, only to be chased from place to place by the police because my tripod could cause an injury to someone who might trip over the legs. However, in a sense the cops did me a good turn by chasing me, for without that needling, I probably would have taken all of my shots from the one spot. As it was I shot from about 6 different positions and got different angles (good camera work), but I never abandoned the tripod. When ordered to move, I pretended I was folding my tripod; then moved to another spot and opened shop again on the tripod, of course, until the next policeman came along.

Now despite all the moving around, I missed only about 10 or 15 per cent of the action going on down on that huge football field. The police were very nice about it when I would tell them that I just wanted to finish taking this or that act, they allowed me to finish before I knocked my tripod down. You know my wife never accompanies me on a trip like that for she knows that I sometimes do things that are prohibited and doesn't want to be embarrassed should I get in trouble.

Well, getting back to the circus film—I took a farewell shot of the crowds going out of the stadium after the show; went home and made some beautiful zoom titles, and when the films came back from processing they were edited. I had a film that I thought would be just dandy. But do you know that film as it was, was a disappointment after projecting it several times. It proved rather boring seeing one act after another—no matter how hair-raising they were. Why? Because I then realized I had been so intent on shooting all of those acts which followed in rapid succession, that I never thought to turn my camera around to record the reaction of the audience to some of those hair-raising stunts.

On the other hand unless two of us were taking pictures (one shooting the acts and the other the audience) it would have required fast work to get a shot of, say, two daredevils swaying on poles 90 feet above the ground and at the same time get a shot of some of the folks up in the stands. The audience was almost ready to pass out, with mouths wide open, registering expressions of horror as those fellows risked their lives. And later there were the children showing delight at the antics of the clowns and the animals.

What I could have done would have been to skip an act now and then, swing my camera around, take my audience reaction shots (by telephoto of course) while another similar act was in progress, and properly edit those close-ups into a sequence where the expression would fit the act to which it would be best suited.

Well, nevertheless, here I was with a dud of a film of 600 feet of a fast acting circus. But there is always another day and another chance. Soon thereafter we were to go on our summer vacation which we had planned to spend in the Mid West. The thought occurred to me that, since I needed some nice crisp audience reaction shots for the film to take it out of

the dud class, we might run into some towns where a circus was playing. Then I could concentrate, with my telephoto lenses from a distance, on some real nice facial expressions of all kinds from the audience as the dare devil acts were performed.

Luck was with us. We were not far along when I gathered up some very nice shots in a small circus playing in Passaic, N. J. In passing through Albany, N. Y., I bought a copy of *Variety*, the actor's magazine, and found there were several circuses playing along our path—two in Chicago and one in Milwaukee. So to Chicago we went. First to Soldier's Field where I got some beautiful shots out of the stands that would fill the bill. The next day at the Railroad Fair which was in progress, there was an extremely high aerial act. Out of the audience I got just what I needed to go along with the high acts in my film, and at Milwaukee were more audience reaction shots. I had to use extreme caution though to get them as close as I could so I wouldn't bring in any of the background of these foreign places in the film or someone would say it was not authentic. They really were not, but good faking can be very useful at times in movie making.

So back from the trip and to the task of putting into my circus film those audience reaction shots at the places where they would best follow the action shots I photographed in Miami. Putting those reaction shots in the strategic places gave that film a shot in the arm, and subsequently it was awarded a Ten Best Award in the ACL Contest of that year. I am positive it would not have received even an Honorable Mention without those additional shots.

The foregoing is just an example of what can be done. The same could be applied to many similar situations—a parade, a football classic,—a pageant, or some historical place, such as Williamsburg, Va., or many similar places. A bit of humor always enlivens a film. There are more angles to turning a poor film into a good one and no doubt many of you have them, but I just added mine.

To illustrate further what I have told you in this talk about changing a dud into an interesting film, I added this very film, titled "CIRCUS TIME" to the reel of the "SPLENDORS OF THE NORTHWEST," out of which I had taken enough footage to allow for the circus film and showed both as the concluding feature of the Convention session. This circus film is now 8 years old and has been shown many, many times.

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George Merz is a prolific and competent filmer who lives in Hollywood, Fla., not California but the name seems to have inspired him. This article is an almost verbatim account of the talk and demonstration he presented at the St. Louis Convention, edited slightly for publication purposes. This is not George's first appearance in the *Journal*, nor, we fervently hope, his last. Many of the suggestions he has made are adapted from professional practices. For example, the tight wind. Film laboratories wind film so solidly *without a reel* that it cannot be collapsed without damaging the film base. For the same reason, to keep dust out.

*As the Scotchman said at the race track. . . .*

## How Long Has This Been Going On?

By Ralph M. Carpenter

*So our world is swinging to color is it? That isn't what this PSA activity shows. It shows that fine prints are still high in popularity, that fine print makers will keep making them, that clubs will still compete. But read on and find out for yourself. . .*

The first question is, "Who reads the Journal, people or clubs?" If club leaders don't read it, then I'm sunk; because this is a club activity. But on the other hand people benefit by it just as much as the clubs do. Oh yes, I'm talking about the International Club Print Competition, a Pictorial Division activity of PSA, the only interclub monochrome competition in PSA.

At the present time there are seventy-five clubs registered in the I.C.P.C. and all fighting like mad to get into first place; you know, just a good natured friendly rivalry based on the awarding of bronze plaques, vari-colored ribbons, trophies and gold foil print stickers.

Did you glance at the cover just for a moment be-

fore you looked to see if they had listed your name for winning a star last summer? Well, if you did, you saw one of the monthly winners of this year's contest. In fact it was made and entered to top so-and-so's entry from the Upandcoming Photo Auxiliary. It kind of looks like this club is going to get kicked upstairs next year because we are forming a new class. There are three classes now: class "C" for new clubs to find out whether or not they can take it, class "B" for those clubs which have passed the initiation, and class "A" for the clubs with half a dozen folks who think they're real hot. Now strange as it may seem, this class "A" has gotten too big for its britches, so we've got to break it up and let those big, blue and glossy guys get in there by themselves and tear each other apart. So you better join the I.C.P.C. now in order that you will have reserved seats for the finals come next season beginning in October and ending in June. You may even pick up some prizes in this year's remaining competitions.

You see, we have five competitions throughout the season; the first in October, the second in December, the third in February, the fourth in April and the fifth in June. Actually there is a sixth in June when the forty-five winners of the bi-monthly competitions are judged to pick a Print-of-the-Year and nine Honor Prints for which we hand out some real valuable awards (picked up either at an auction or a hockshop).

Of course, this activity has to have a big shot at the head of it who does nothing except take all the credit for putting on the show. Once in awhile someone comes along and says, "Hey you, you with the big tummy, why don't you get wise to yourself and make



Night Train  
Ray Gedney  
South Shore Y CC  
3rd, Class B, December I.C.P.C.

a rule prohibiting that good for nothing club at Shuttle Print from putting in those two color prints? That ain't fair." So the director hunts up all the literature he can find and sends out a Questionnaire to get as much free advice as he can and dopes out some crazy idea about a new class for those wise guys so that they don't offend the ones who don't know how to do it.

This same director who is nothing but an upstart himself, got the idea that the report sent out to the member clubs at the wind-up of each contest was too impersonal and lacked the neighborly touch. So he has just added a sort of editorial page to the report and called it "The Front Page." Doesn't sound very photogenic, but then, it's just a place where the clubs can air their gripes or offer suggestions for the improvement of their own status in the activity. It is also a good place for the director to make his apologies every time he makes a boo-boo like putting some unsuspecting club on the short end of a winning score, and, of course, getting caught at it.

I personally think the "Front Page" should be called "The Hash Sheet" because it is a good place to hash over such notions as conducting the I.C.P.C. competitions by regional contests (East, West, Central and extra territorial) with a director or assistant director for each with an all-over run-off at the end of the competition year. Maybe when the activity reaches over one hundred clubs in full participation we'll have to think about something like this. If someone can only think of some idea so that the director can again just go out and take pictures all the time, I'm all for it.

Another thing that's very important is the fact that the clubs belonging to this activity range in size from a minimum of four members to four hundred or more members. Furthermore, I know a club of only four members whose present standing is right up there with the club of over four hundred members and they're in the same class too.

The first thing that some folks want to inquire about lots of the time is, "What kind of judges do we allow to officiate at these hassles?" Only the best! And when he said that he stuck his neck out too far and got it chopped right off at the Adam's Apple. Well, here's meat for an argument; but ninety-nine and nine tenths of the time I will take the part of the judges. They are not so easy to procure as it might seem. They are not hanging around waiting to be asked to perform a thankless task. For there are many more losers than winners and it's only human for the losers to blame the judges, "Those blankety blank so and sos who don't know a good picture when they see one." Naturally, we try to place these contests so that they will be scattered over the whole country during the contest year and thus have a better cross-section of the human element if that's possible. It is not easy. Some clubs don't have the facilities for handling such a big

project and others have such a full schedule lined up way ahead of time that it is impossible to work it in. Sometimes, every print maker for miles around belongs to the club, so it's very hard to obtain a panel of judges without paying an exorbitant price to get them to the scene of action.

The clubs taking on the job of conducting a competition are called the handling clubs. These folks deserve an awful lot of credit. Many of them work way into the wee small hours getting ready for the final show coming up the next day and they want everything to go off as smoothly as possible. It practically always does too, at least to the casual observer.

Perhaps by now you are beginning to digest some of the meaning of the letters I'm sure you have seen often and didn't know what they meant, the I.C.P.C. It is truly an activity which, once a club joins, they will find that it stimulates the desire to become more proficient in the gentle art of black and white print making.

How long has this been going on? I don't know, I'm just a newcomer myself. I got tangled up in I.C.P.C. only a couple of years ago and I wouldn't get out of it now for anything unless they decide to kick me out. One of the member clubs wrote in to me and called the I.C.P.C. the club's "Window of the Photographic

#### Cover Picture

Aloof

Otto Walasek

1st, Class B, October I.C.P.C.



#### Racing Sails

Joe Biringier

Silhouette CC

1st, Class A, December I.C.P.C.



**Ivy Bottle**  
Walter S. Case  
Los Amigos CC  
1st, Class B, December I.C.P.C.

**Rippling Tide**  
Craig Lindner  
Modesto CC  
1st, Class C, December I.C.P.C.



World" by which they could see their work compared to the others and learn how to advance their know-how as well as improve their conception of composition to make a good picture better. That guy is a poet anyway.

You have often read that people make pictures in order to convey impressions of particularly interesting scenes and events to their fellow man who was not fortunate enough to be there. Actually they do it for a more selfish reason. They are not only proud of the fact that they were on hand to record the event, but they like to gloat, inwardly at least, about the manner in which they handled the subject. What I'm driving at is, when you or I make what we realize is a terrific picture, at least in our own minds, we cannot wait to exhibit it, first to our immediate family, then to our club members, and after that, if successful in the local circle, it must be shown to the world in general. And, if it will stand up, it is right and proper that it should be put on display for the enjoyment and education of all who are privileged to see it. This is where the I.C.P.C. comes in. After your pride and joy has had its day or night of glory in the local outfit, why let it die there if it is good? Enter it in the International Club Print Competition and probably it will get some kind of an award there. Remember, you are now dealing with the cream of the crop and you are competing with the top amateur print-makers of the Northern continent, because, if a club has at least four print-makers, it should belong to I.C.P.C. If your efforts are favorably rewarded in this nationwide competition, you may be sure that they will win acclaim, maybe not the first time, but eventually, in the International Salons, the ultimate goal of all photographers.

The director's name and address is listed in the PSA Journal near the back and under Services, Pictorial Division—Clubs. Just write to him and he will furnish all the information you need to embark on one of the most inspiring adventures you have every undertaken in the photographic world. You will not only be riding on top of the world yourself but you will bring recognition and renown to your club as well. Where else can a club get to be nationally accepted as a bunch of live wires; and what better way to sponsor your club members into the limelight of a PSA honor by accepting a position of responsibility in the hobby you love? By just dropping a post-card or brief note in the mailbox, you can have the greatest photographic organization in the world at your beck and call.

Ralph Carpenter may be Director of I.C.P.C. for the Pictorial Division, but he's a lot of other things, too. He is an active member of the Stamford CC and the Fireside PS, a print maker of no mean ability and a color slide shooter. Says he'll tackle prints if ICPC ever leaves him time. More than that he has created several excellent slide talks based on his love of country living and of the sea. In between his PSA and club work, he is milk inspector for the Stamford Board of Health, ranging for miles over the Stamford milkshed, always with a camera, and every summer finds him and his wife Helene (who is president of the Stamford CC) headed for Block Island on their small cabin cruiser.



# Photographic Science and Technique

TECHNIQUES DIVISION  
SUPPLEMENT  
For ALL  
DIVISIONS

Editor: Ira B. Current, FPSA, 26  
Woodland Road, Binghamton, N. Y.

## ASA PH3.6-1952

The above number refers to an American Standard covering tripod connections for American cameras,  $\frac{1}{4}$ -inch diameter, 20 threads per inch. The existence of this document does not mean that all cameras made in the United States have to have a  $\frac{1}{4}$ -20 tripod socket, or that all tripod screws should be of this description. But the manufacturers and users of photographic equipment, who are represented by the photographic technical committee working under the American Standards Association have agreed on a single standard, and have made this known through ASA PH3.6-1952. Thus everyone can make his camera and his tripod so that they can be used by everyone else's cameras and tripods made in accordance with the agreed upon standard.

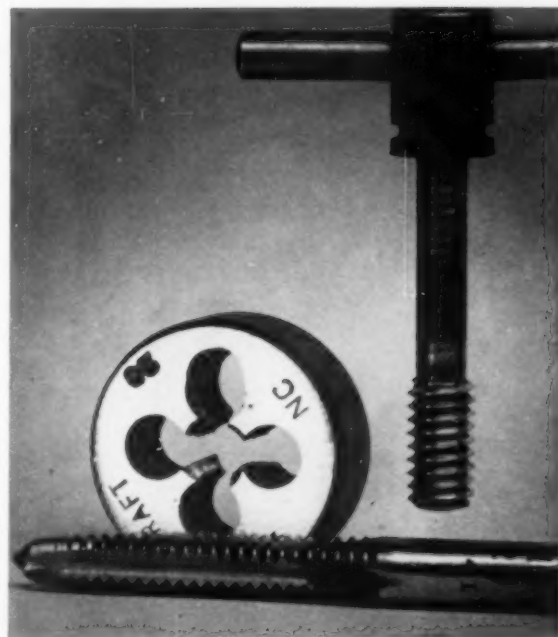
The idea of a standard  $\frac{1}{4}$ -20 screw can have even further significance to the camera fan who has occasion to assemble some special equipment of his own concoction—a unique camera stand, or perhaps an optical attachment, to mention a couple of examples.

If he is wise, he will standardize on  $\frac{1}{4}$ -20 threads for as many of the screws or nuts as he can to fasten his creation together. Thus, if he finds himself afield, and having lost one of his fasteners, or having lost his tripod screw he can readily substitute one piece for another in this common "stove-bolt" size.

Even more than this, the purchase of a  $\frac{1}{4}$ -20 tap and the same size die, with their respective wrench and holder will set him up to turn out his own special screw fasteners, that can be interchangeable with a standard tripod screw.

To many of us, the activities of the American Standards Association are old stuff, but to others this "homey" discussion may serve as an introduction to an organization which makes it practicable for photographers to enjoy the technique as it is practiced today. Participation of the PSA in these committees makes it certain that the roll films and their spools and backing papers are compatible with cameras; and that slide mounts will fit into projectors; that filters will fit on the camera lenses; and that projection screen illumination can be held to comparable levels from one showing to another, from one exhibition to another.

American Standards specify methods for determining the resolving power of projector lenses, they specify the purity and grade of chemicals used for proc-

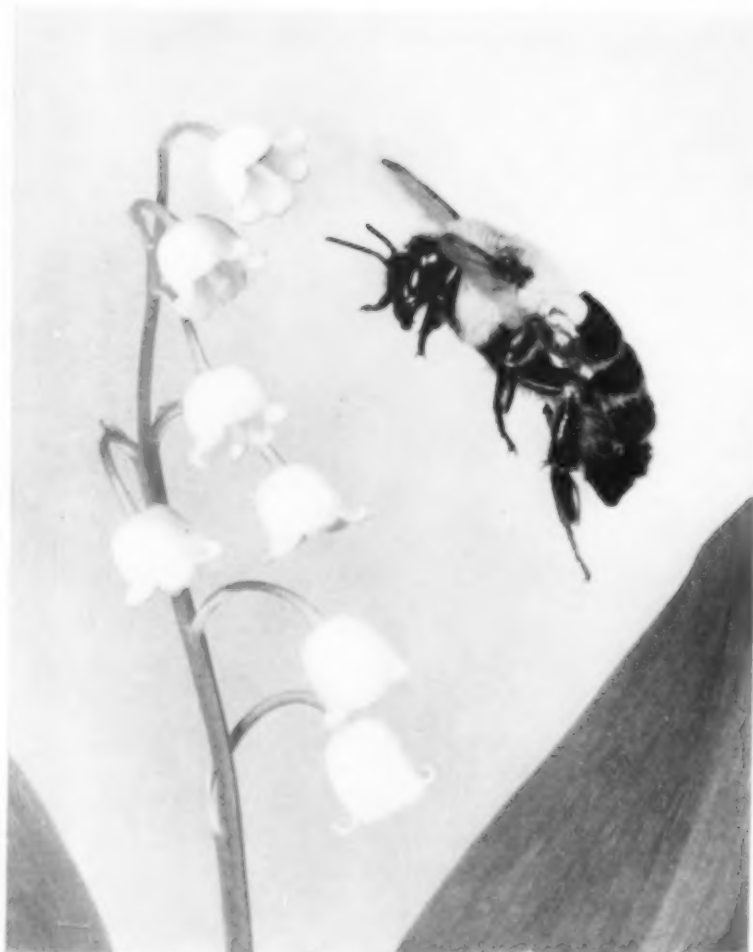


essing, and even the temperatures at which the processing should take place. They specify how the speed of the film shall be defined, for common comparison and most reliable exposure, and even how the densities of the silver layers resulting from exposure and development are to be measured for the greatest precision in sensitometry, the measure of sensitivity. There are standard processing techniques that serve as a common basis for processing control; control that makes it possible for complete self expression in photography.

The Chairman of ASA Photographic Board states that the PSA is the only active consumer organization participating in ASA photographic activities at the present time. We must never lose sight of the importance of standardization in techniques. For even though standards may not necessarily be adhered to, their existence forms the common basis for reference when photographic techniques are to be exchanged or evaluated.—I. B. C.

# Photo-electric Nature Photography

By Treat Davidson



Bumble Bee and Lilies of the Valley.

**If this looks complicated to you, that proves you are not a gadgeteer at heart. A radio ham could toss this one off in his sleep! So if you want to catch the birds and the bees napping, get friendly with a radio ham and make a nature photographer out of him. He can read circuits and solder wires, you teach him the joys of the camera and confuse him with our jargon.**

Treat Davidson has been doing these tricks for a few years now. Only a nature photographer who manufactures heavy equipment as a side-line (!) would think of combining the heavy stuff with delicate cameras to unveil some of the secrets of wild life. And only a very smart man would dream up a gadget that works while he sleeps, and turns itself off when the task is completed!

All credit for the writer's interest in the fascinating subject of color photography belongs to Paul, a pet bullfrog that lived in his lily pool. Paul would sit for hours among the colorful blooms without even blinking an eye. As early attempts to take this scene quickly disclosed that a good picture requires more than a snapshotter's ability to aim, load, and fire, an investigation began. Within a year this investigation led to a better camera, the formation of a local color club, membership in the P.S.A., and a picture that was accepted in an international exhibition.

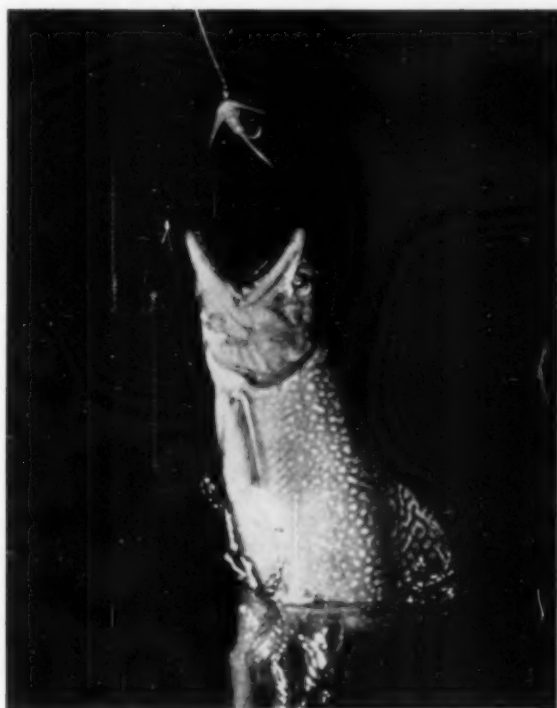
After Paul had been photographed in every conceivable setting, the writer was wondering what to do next when he recalled that a friendly editor had once expressed considerable interest in good action shots of trout. Speed lights were clearly indicated and a letter to their inventor Dr. Harold E. Edgerton, whom the writer knew of through his articles on photographing hummingbirds in the National Geographic magazine, brought a most helpful reply which resulted in Strob being added to the photographic equipment.

A long vacant but well-built henhouse was converted into an "aquatic studio" complete with a large aquarium made of heavy plate glass and heavy steel.

After much optimistic planning and many trial shots of an unbelievably cooperative rainbow trout the pictures disclosed that the action was faster than the human reaction. The pictures were mostly blanks or beautiful splashes of water. The occasional fish's tail would be badly out of focus. Obviously something else was needed, but what?

Several months later, an advertisement for photoelectric equipment in an engineering magazine led to the thought that photoelectric apparatus might be the answer.

Letters to prominent manufacturers of equipment actuated by photoelectric cells brought replies stating that nothing they had, or knew



Dead Aim



Chimney Swifts

(These from Ektachrome transparencies)

about, could be arranged to actuate a camera solenoid at any speed approaching  $1/100$  of a second after the light beam had been interrupted.

A letter from Dr. Arthur A. Allen, Professor of Ornithology at Cornell University, said that he had given some thought to the use of an electric eye for tripping a camera shutter although he had not tried it and would be glad to hear how the experiments turned out. Another letter from Dr. Edgerton mentioned that it might be possible but that he had not done it.

When planning the device, it was obvious that the time delay involved would, to a considerable extent, depend on how long it took the various solenoids to operate. A study of this subject, however, disclosed that this field was relatively unknown, even by the people who manufactured devices of this kind. As the only answer seemed to depend on plunging into an uncharted sea, as it were, the writer attempted to find a solution and had made considerable progress when he happened to mention the problem to Commander William S. Heston, U.S.N.R., an engineer whose business and hobby include electronics.

Commander Heston's immediate interest and cooperation resulted in a "bread-board" layout which included a thyatron tube in the circuit. This experimental setup took the picture of a golf ball (wrapped in a piece of cloth) traveling at a velocity of 20 miles an hour. The  $2\frac{1}{2}$ -inch drop after it had broken the light beam shows that the picture was in the camera approximately  $1/116$ th of a second after the light beam had been interrupted. As Mr. Heston had figured, the thyatron tube used in this new way acted as an electric valve which was instantaneously opened by the quick but feeble impulse received from the photo electric tube. This allowed a surge of current to flow from the battery and operate the camera solenoid.

At this stage the project was moved outdoors for further trial. Experimental shots in black and white were so good that the National Geographic accepted two for use in its "Book of Fishes."

With the advent of warm weather, Paul the pet bullfrog in his pool just in front of the "aquatic studio" invariably greeted me on my trips back and forth. Perhaps he missed the

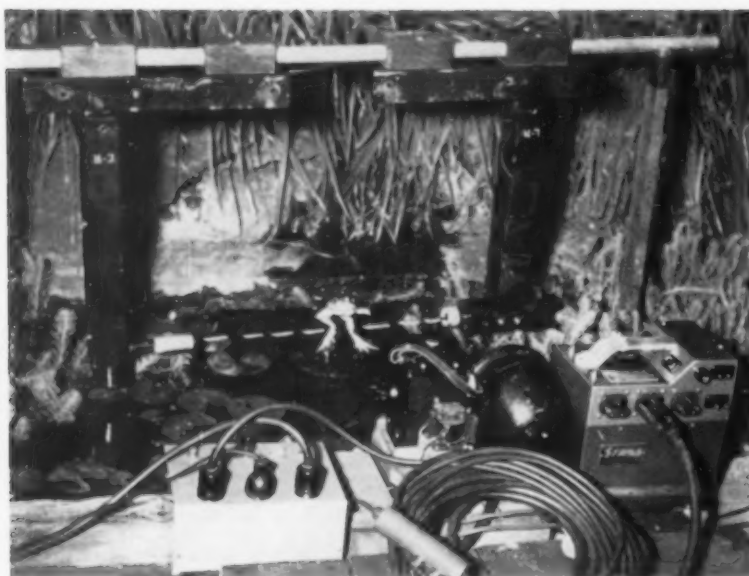


Testing reaction time of equipment.

food and attention received when he was having his picture taken. In any event, action shots of a frog seemed to be a good idea and so another project was started.

The picture of Paul breaking the light beam shows the setup as it was used for all frog pictures excepting that it includes one Strob light and powerpack near the camera instead of the two that are regularly used.

Pictures of Paul first appeared in Photography Magazine in 1952, featured as "The Frog Who Shot Himself." Since that time his pictures have not only been accepted in several international exhibitions but also been selected by editors for publica-



The hanging "gallows" holds a photo-electric cell at left and a light source at right (dotted line). Any object which breaks the beam actuates flash and camera. Note frog. Control box in left foreground contains circuitry shown below. Next is camera and Strob light, then Strob power supply. Long cord and switch in foreground provides remote control (see text). Same set-up used for fish, bird and insect pictures.

tion around the world in most countries where printing is done, excepting behind the Iron Curtain.

The big advantage of this equipment is that it enables one to photograph subjects that move faster than the eye can follow. In practice the camera is focused on the light beam.

This makes it practical to work in a fairly shallow depth of field. Any subject that breaks the light beam must be in focus to do so.

Mr. Crawford H. Greenewalt, president of the DuPont Company, asked the writer for information soon after *Popular Photography* had ac-

cepted the article and has used a similar one since to take his outstanding pictures of birds in flight which have appeared in *Popular Photography*, *Colliers*, etc. Incidentally, Mr. Greenewalt later said that his laboratory people had informed him that the inclusion of the thyatron tube, which Mr. Heston thought up, was the only way the equipment could have been made to work.

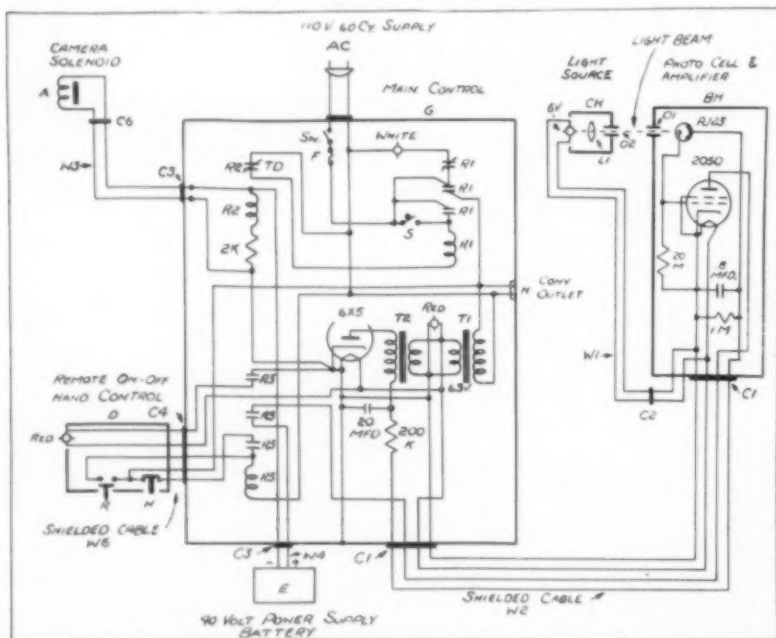
So far in the writer's comparatively brief photographic career this photoelectric equipment has been extensively used only for taking fish, birds, frogs, and insects.

There is a lot of satisfaction in getting pictures that are interesting and different. Every now and then previously unknown things are brought out. The frog pictures, for example, disclosed that a frog retracted his eyes and further protected them by closing an inner eyelid at the start of his jump; also that his front feet are used to supplement his tongue in capturing and swallowing food. The most intriguing thing about this type of nature photography to the writer is the speed at which it increases his knowledge of natural history. A general knowledge of any subject seems to be indispensable prior to attempting a picture, then more study is needed to find where and how the setup should be made so that the creature can be induced to go where it should to break the light beam and take its own picture.

Briefly stated, the self-taker operates when an impulse is sent to the electronic unit by the interruption of the light beam. This unit then activates a solenoid tripper that snaps the camera's shutter. The shutter in turn fires the speedlights and thus takes the picture.

After the picture is taken, the equipment automatically shuts itself off. This feature makes it possible to shoot subjects, say like a flying squirrel coming out of its hole, while you are asleep. If the apparatus is off when you check next morning you have a picture, often one that is quite good.

The hand control is also a desirable feature. It can be operated from a distance of 25 feet from the setup, or much further with a longer cable. There are two push buttons on the control—"on" and "off." When the "on" button is pushed, the red indicating light is lit showing that any interruption of the light beam will



Circuit of the control and operating unit pictured above. Parts within each square are separate boxes as seen in picture at top.



take a picture. After the "off" button is pressed, the red light is out and nothing happens when the beam is broken, although the tubes are "hot" and everything in order for immediate action when the "on" button is pressed. This makes it possible to select the wanted subjects in situations where a variety of creatures are apt to interrupt the beam; for example, in a hummingbird setup near a flower that is also visited by bees and butterflies.

Several more or less typical pictures illustrate this article but the surface has scarcely been scratched insofar as its application to photography is concerned and the field is wide open for all who wish to try. The accompanying circuit diagram and bill of material will be useful to the readers who are seriously interested in the device.

This original equipment was made without the benefit of special relays and custom-made parts. The majority of the items were inexpensive surplus parts or from the "junk box." Its total cost amounted to less than \$100. Anyone familiar with electronics and its more recent developments should have little difficulty making one like it, or a similar device, that would be better suited to his needs.

This supplementary "Sequence of Operation" is appended for those of our readers who are technically inclined:

Closing toggle switch SW turns the white indicator light on showing that the equipment is ready to start. By pushing start pushbutton S relay R<sub>1</sub> is energized opening contacts to the white light which goes out. Relay R<sub>1</sub> is held in by its holding contact which is in series with the normally closed contact R<sub>2</sub> of time delay relay R<sub>2</sub>. Also power is applied through one contact of relay R<sub>1</sub> to the convenience outlet and primary of transformer T<sub>1</sub>. Upon energizing transformer T<sub>1</sub>, red indicator light is on, all heaters on tubes are on and transformer T<sub>2</sub> is energized. Transformer T<sub>2</sub> supplies 117 volts to the 6X5 rectifier tube. The rectified voltage is applied to the photo electric tube. When the light source beam falls on the photo electric tube a negative voltage is applied on the grid of the 2050 thyatron tube biasing the tube so that it will not fire.

By pushing button R on the hand control, relay R<sub>3</sub> is energized and is held in by one of its contacts. The



Paul the Pet Frog does his stuff and takes his own picture! By positioning light beam at various levels a series of pictures telling a full story can result. All photos by the Author.

## Bill of Material

Item	Quantity	Description
A	1	Camera solenoid for tripping shutter
BH	1	Photo cell & amplifier housing—2" I.D. x 11" long
PJ23	1	Photoelectric tube (General Electric GL 868/PJ23 or RCA 868)
2050	1	Thyratron tube—#2050
20M	1	20,000,000 ohm—½ watt resistor
0.8Mfd	1	0.8 Microfarad electrolytic 150 volt D.C. condenser
1M	1	1,000,000 ohm—½ watt resistor
C1	2	Connectors—4 Pin socket & plug
C2	1	Lamp cord connector—2 prongs
C3	2	Connectors, 2 prongs & plug
C4	1	Connector, 5 pin socket & plug
C6	1	Connector and plug to suit solenoid
W1	1	Parallel lamp cord—6' long
W2	1	Shielded cable—4 wire x 20' long
W3	1	Parallel lamp cord—20' long
W4	1	Parallel lamp cord—3' long
W6	1	Shielded cable—5 wire x 25' long
CH	1	Housing for light beam source—2" I.D. x 4" long
O1	1	Tube ¾" dia. x 4" long
O2	1	Tube ¾" dia. x 3" long—adjustable
L1	1	Lens ¾" dia. (for concentrating light beam)
6V	1	6 V. lamp
G	1	Main control housing box—6" x 8" x 3½" high
R1	1	Relay—115 volt x 60 cycle—2 normally open and 1 normally closed contacts
R2	1	Relay—24 volt D.C.—1 normally closed contact (Time delay about ¼ second as adjusted by 2000 ohm resistor)
R3	1	Relay—115 volt, 60 cycle—3 normally open contacts
SW	1	Toggle switch—main control
F	1	Fuse—3 ampere (in holder)
S	1	Switch (momentary contact)
T1	1	Stancor transformer—117 volt x 60 cycle primary 6.3 volt x 3.0 amp. secondary
T2	1	Stancor transformer—117 volt x 60 cycle primary 6.3 volt x 1.2 amp. secondary
2K	1	2000 ohm—1 watt resistor
20MFD	1	20 Microfarad electrolytic condenser
200K	1	200,000 ohm x 2 watt resistor
6X5	1	Rectifier tube
D	1	Hand control housing—100 amp. fiber fuse case—1½" dia. x 4½"
Red	2	Pilot lights
White	1	Pilot light
R	1	Switch—normally open—momentary contact
N	1	Switch—normally closed—momentary contact
E	1	90-volt battery (operates camera solenoid)

red indicator light of the hand control is now on due to one contact being closed to the 6.3 volt tube heater circuit. Also, through one contact of relay  $R_3$  the battery circuit is closed to the plate of the thyatron tube. The equipment is then ready to operate if the beam is interrupted. The equipment can be made inoperative by pushing button N which de-

energizes relay  $R_3$  and turns out the red light on the hand control. Subsequent pushing button R will re-light the red lamp on hand control and instantaneously make the equipment ready to "fire."

When the equipment is warmed up and ready, any opaque object passing through the light beam will reduce the negative grid voltage on

the thyatron tube which will "fire" allowing current to flow through the camera solenoid and relay  $R_2$  (time delay about  $\frac{1}{4}$  second adjusted by the 2000 ohm resistor). When the camera solenoid operates, relay  $R_2$  is energized which opens its contacts. This de-energizes relay  $R_1$  and shuts the equipment off. The white light is on and all red lights are off.

## A "Break-Through" In Lens Design

By H. G. Morse

The last few years have seen revolutionary improvements in the design of photographic lenses. Before the last war lens design, while an exacting business, was one with clearly defined methods, materials and limits. The glasses available were flint and crown of various types and while some improved types of glass were developed in the forty years after the introduction of Jena Glass made the anastigmat lens possible, the advances were slight improvements in degree rather than a real technological advance.

Computation of lenses was a laborious procedure involving the tracing of hundreds of rays through the various glasses and surfaces, correcting the curvatures and then going through the whole business again until optimum correction was secured. These computations would occupy months and years with the equipment then available and time

limitations would automatically preclude any extensive work on new design methods with little promise of immediate success. The use of complex lens types was also limited by the fact that 4 to 5 percent of the light passing through a lens was lost at each air-to-glass surface. This light would not only be taken from the image forming system but would appear in the film plane as stray light causing fog and ghost images which would lower the picture contrast and obscure shadow detail.

During and immediately after the war, three important advances were made in materials and techniques available to the optical designer. Basic research on glass has produced a whole new family of optical glasses incorporating the rare earth elements. These had a wider range of dispersions and refractive indices than heretofore possible and allowed the designer to accomplish with three glasses what had formerly taken four or even five. The low priced f1.9 cine lenses such as are found in the Brownie 8mm motion picture cameras are an immediate dividend from this basic advance as are the wide field professional camera lenses of more moderate aperture.

Hard, anti-reflection coatings for lenses have made optical constructions, which were for years rosy dreams, become reality. In the pre-war years high-speed lenses for miniature and motion picture cameras were notorious for low contrast and less than advertised speed. A lens

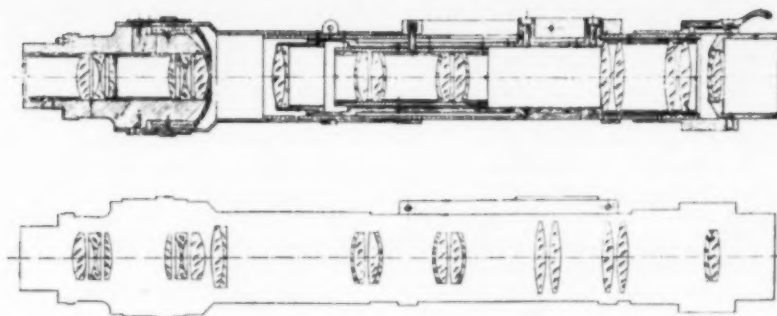
such as the f2 Leitz Summar passed only about 50% of the light incident on it and a lens such as the Zeiss Sonnar was forgiven deficiencies in image formation because of the high transmission and low stray light made possible by the few air-glass surfaces. In large camera lenses the ideal was approached in such lenses as the Turner Reich with ten components and only four air-to-glass surfaces. This was really the hard way of doing the job but it gave beautiful image contrast. With the advent of coatings the designer no longer had to worry about economizing on his surfaces or checking on the possibility that flare spots might ruin an otherwise excellent design. The most spectacular result of this was lenses such as the Zoomar with 32' air glass surfaces.

The final factor in this break through was the introduction of modern electronic calculating machines supplanting the old desk calculator. These modern brains allowed the lens designer to evolve a lens design and then compute its performance in less than a day's time. This gave him a chance to try out his wild ideas as well as the tried and true approaches and to put the finishing touches on a design to obtain optimum correction. It is this that is responsible for the speed of the development.

One of the important results of this revolution is that it has allowed the photographic instrument designer to plan a co-ordinated mechanical-optical approach to his prob-



An example of the effect of "rare-earth" glass as a lens designer's tool. The lens at left is plain glass. Note the extra magnification of the girl's eye through the new glass. Photo courtesy Eastman Kodak Co.



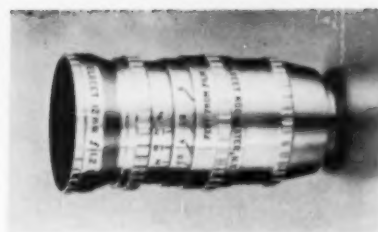
Cross section of a Zoomar variable focus lens showing the 32 air to glass surfaces. Without coating, this lens would transmit less than 20% of the light incident on it.

lens. Instead of tailoring the equipment to existing lens designs he is able to work with both components. We see this type of design in meeting the perennial problem of how to build a camera with interchangeable lenses, without supplying interchangeable shutters as well. The classical solution pioneered by the Leica is elegant for most purposes but the focal plane shutter is remarkably ineffective if flash is to be used. A leaf shutter behind the lens would be good were it not for serious vignetting with long focus lenses with which it is far removed from the nodal point. This problem of pouring the light through a prepositioned hole is one that can now be solved by our designers. The most obvious way to do this is to use supplementary lenses which are in essence highly corrected opera glasses, normal for telephoto and reversed for wide angle effects. The human eye is a remarkable instrument which, by accommodation, can compensate for a good many of a lens's shortcomings. As a result the photographic opera glass or spy glass attachment has to be relatively complex and expensive to give satisfactory photographic performance. This approach is seen with the converter lenses so popular on current 8mm movie cameras where fixed focus can be used to eliminate the necessity for focus adjustments, and where the narrow angle covered by motion picture cameras and the small size of the 8mm image make anything more than fair image quality unnecessary. Attachments of this type to produce a high image quality have been marketed by Kodak for their f1.4 Cine

Ektar and by Zeiss for the Contaflex f2.8 Tessar, at a price on the order of \$100.

In general, where quality images were required the designer has preferred to retain only a part of the original lens as in the Retina or later Contaflex systems or to design an entirely new system having approximately the same back focal distance as the prime lens. At the present time lens and shutter developments are proceeding together to give a convenient interchangeable lens system based on a series of lenses of varying focal lengths all having the same back focus. The physically most compact assembly in such a series is usually the normal lens with the wide angle and long focus being quite long with enormous front elements. Diaphragm position is near the back of the assembly. This type of lens is more complex than a normal length construction and without coating would be unsuitable because of flare and transmission losses. Computation, with these additional necessities would be laborious, and only with modern computers can it be accomplished to provide a lens set when the shutter is ready. This type of design is also useful in motion picture cameras or with single lens reflex cameras where the rear of a wide angle lens must clear the camera mirror mechanism. Lenses made on this principle have been made for 16mm cameras with a focal length as short as 10mm and a speed as high as f1.2.

Another fruit of these advances is the high speed variable focus lenses having a constant flange distance such as are made by Zoomar and



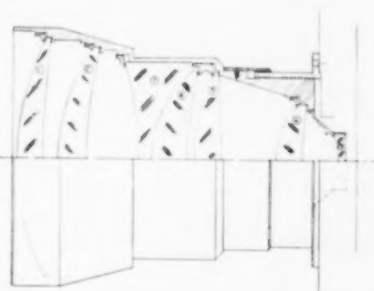
The Elgeet f1.2 12mm lens employs new formula glasses and aspheric surfaces to combine extreme speed and wide angle coverage for 16mm film. This has been done while retaining the long back focus necessary for turret mounting.



Cross section diagram of the Elgeet f1.2, 12mm lens.



A special purpose lens for data recording, the Traid 720, has a focal length of 3.45mm and a speed of f1.5 to cover a 16mm frame. The extremely wide angle coverage is achieved by allowing considerable distortion which does not interfere with this specialized use.



The use of new formula glasses and modern computing methods makes possible such super speed lenses as Kodak's f0.75 Fluoro Ektar designed for use in radiography with fluoroscopic screens.

SOM. This type objective is particularly valuable in movies and television where the small image needed keeps the bulk of the lens relatively small, and where an additional cam-

era would be required to cover the blank interval resulting when a lens turret is shifted. A lens of this type with 32 air glass surfaces would not be possible without coating because of low transmission and flare. A further use of these highly complex systems is found in aerial camera viewfinders where the image is projected through a tube containing twenty or more lenses and a number of prisms to carry the finder image to the pilot or navigator.

For applications such as data re-

cording a lens may be used which has a considerable amount of distortion. New in this field is a really super wide angle combination which covers a 16mm frame at a speed of f1.5 with a focal length of only 3.5mm. The distortion allows a considerable increase in illumination at the edges of the field in comparison with more conventional forms.

Extremely high speed lenses, while spectacular, have less practical value for most situations than might be supposed as the slight depth of field

and their extreme bulk limit their utility on all but the smallest cameras. Quality objectives can however now be found with speeds of about f1.2 for 35mm cameras and f1.0 for 16mm. When the need for highest speed is acute, and the question of portability or of depth of field is not important, as in the case of fluoroscopic radiography, we find the new techniques producing lenses as fast as f0.65 which approaches the theoretical limit for aperture size.

(1) Frank S. Back JSMPE 47 464 (1946)

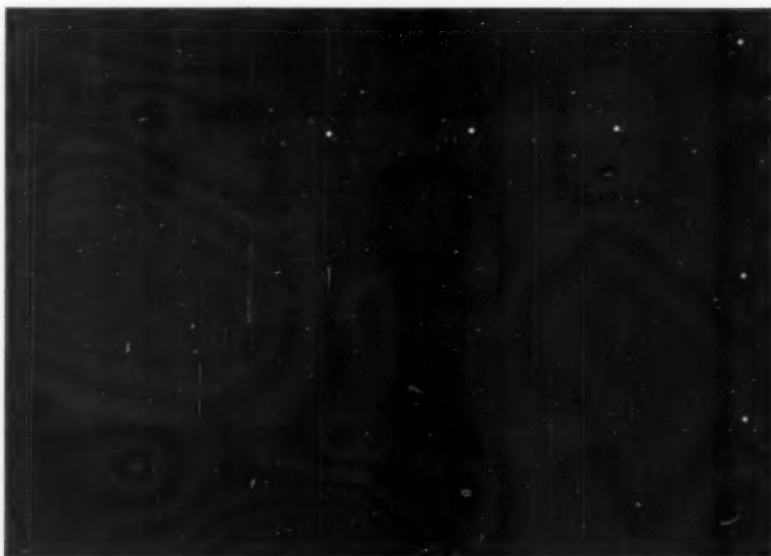
## Watchmakers' Luminous Paint Aids Darkroom Workers

By J. R. Ground, PSA, SPE.

Have you ever been in your darkroom with a lot of film opened up so you couldn't turn the lights on, and then discovered that you needed something that you were unable to locate in the dark? If you have, here is an idea that will be of interest to you. Simply fill a few small holes along your darkroom shelving with luminous paint. These luminous dots glowing will make it easy for you to locate equipment while working in total darkness.

For these luminous markers use a type of regular watchmakers' paint such as is used on the faces and hands of watches. Luminous (or phosphorescent) paint is non-poisonous and non-toxic. It is activated by the light which strikes it and it does not contain any radium! Lumi-Point luminous compound distributed by Swatchild & Company of Chicago is an especially good paint of this type, and comes in a tube with a needle point applicator which makes it very easy to apply. If your local watch repair man does not have this type of paint on hand, he can easily get it for you. It is inexpensive (about \$1.25 a tube) and a small tube goes a long way. You will be able to find any number of uses for it: marking light switches, faces and hands of darkroom timers, etc.

In applying the luminous paint to the shelving, it is best to make a small hole about  $\frac{1}{8}$ " in diameter and  $\frac{1}{16}$ " deep. There are two reasons for using holes: 1.—placing the luminous paint in holes keeps it from being chipped off of the shelving,



Luminous dots about darkroom make it easy to locate equipment in the dark.



With drill or punch make small holes about  $\frac{1}{8}$ " diameter and  $\frac{1}{16}$ " deep to hold paint.

and, 2.—the use of holes allows the paint to be put on thicker. The thicker the paint, the better it will glow in the dark. This type of paint absorbs light to which it is exposed,



Tube of luminous paint may be purchased from your local watch repairman for about \$1.25. Squeeze paint direct from tube into holes in shelving.

so the brightness of the glow is determined by the amount of light to which it is exposed beforehand.



# An Inexpensive Print and Film Drying Cabinet

By Henry E. Britcher

At one time you have probably found yourself with a batch of prints or film, ready to dry, but without the time to wait for them to do so. This inexpensive cabinet will do the job for you in a few minutes.

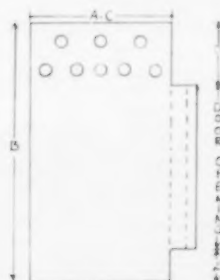
The material can be secured from your local Sears Roebuck store, and a friendly heating contractor.



SHAPE OF WRAPPER SHEET



A - WIDTH OF FERROTYPE PLATE + 2"  
B - HEIGHT OF FERROTYPE PLATE + 2" + D  
C - SAME AS A  
D - DEPTH OF FAN + 3"



SHAPE OF SIDE PANEL

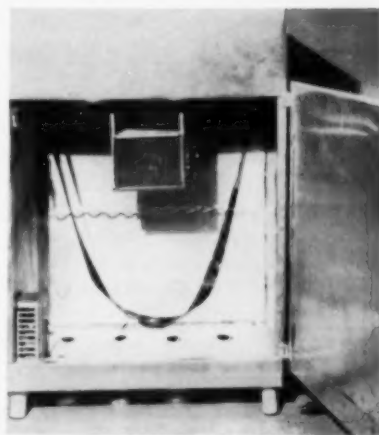
## List of Materials

- 1 roll 20" wide aluminum flashing.
- 1 small electric fan (drug store type).
- 1 porcelain socket.
- 1 piece fibre-glass filter material.
- 1 piece  $\frac{1}{2}$ " mesh wire screening for filter support.
- 1 500 watt cone type electric radiant heater element.
- 1 gross #6 x  $\frac{1}{2}$ " self-tapping screws.
- 1 8' #18 gage appliance cord.
- 1 insert grommet for above cord.
- 2  $\frac{1}{2}$ " x  $\frac{1}{2}$ " bolts with nuts and washers.
- 4  $\frac{1}{4}$ " x 2" bolts with nuts.
- 4 pieces 1" x 1" doweling (for feet).
- 25' aluminum clotheswire.
- 1 piece masonite or  $\frac{1}{4}$ " plywood.
- 4' #18 stranded wire.
- 2 small cabinet hinges and latch.
- 1 high voltage (110 V.) used thermostat. (Here is where the friendly heating contractor comes in. He probably has several of these in his bins since he will now

be using the newer low voltage type.)

## Sequence of Operations

1. Draw sketch of cabinet, and determine all dimensions. For example, the door should be at least two inches higher than the long dimension of your ferrotype plates. The space above the door should be at least three inches deeper than that required to mount your fan in a horizontal position.
2. Unroll and flatten aluminum flashing.
3. Using linoleum knife scribe all dimensions on wrapper sheet. The wrapper sheet (if your material is long enough) should form the bottom, back, top and front (except the door) of the cabinet. The sides and door are cut from separate sheets.
4. Allow  $\frac{1}{2}$ " around all outside edges of the wrapper sheet. This half inch provides screw hold for the side pieces and stiffens the whole assembly.
5. Allow 1" (beyond the  $\frac{1}{2}$ " in #3) beyond top and bottom dimen-



sions in laying out sheet and at least 2" for skirt below door.

6. Notch  $\frac{1}{2}$ " edge at all bending points.

7. Cut side pieces.

8. Drill or punch sufficient holes in top of sides and bottom of wrapper sheet to permit free air passage.

9. Score and bend, with strong straightedge, all horizontal bends.

10. Bend up  $\frac{1}{2}$ " edge all around

both sides. (If that friendly heating contractor is really friendly, borrow a pair of 3" hand bending tongs from him. These will help you make a neater job.)

11. Assemble cabinet using self-tapping screws. Drill starter holes with  $\frac{1}{8}$ " drill.

12. Form 1" x 1" angle one inch shorter than width of cabinet and install on line with top of door opening on inside back of cabinet.

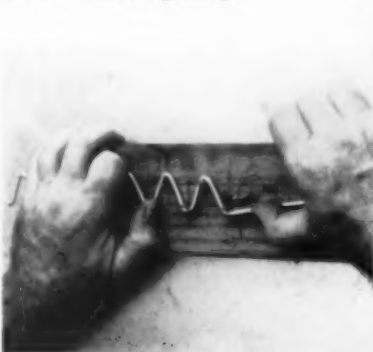
13. Install fan on one side of cabinet above door using  $\frac{1}{2}$ " x  $\frac{1}{2}$ " bolts.

14. Install porcelain socket for cone type heater opposite fan.

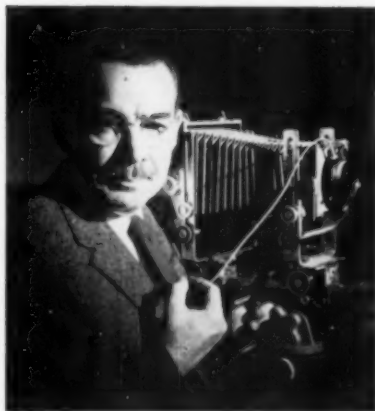
15. Install thermostat in bottom of cabinet at side. Thermostat must be level in order to function properly.

Tape all connections well with both rubber and friction tape.

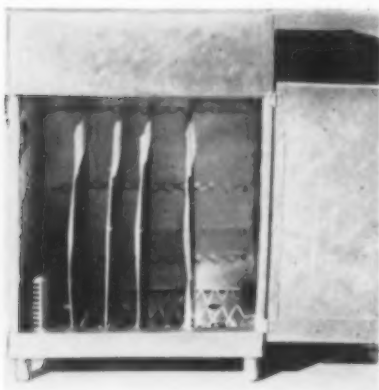
17. Construct door by forming aluminum sheet around a sheet of  $\frac{1}{4}$ " plywood or masonite cut 1" larger than the door opening.



**The Author**



Henry E. Britcher was born in Baltimore, Md., many, many, many years ago. During his youth he moved to York, Pa., then later he attended schools in New Jersey and Virginia. At various times he has been a sailor, a newspaperman, a salesman, and a photographer—all for brief periods. For more than three decades he has held various positions with a large manufacturing organization, and recently has done photographic work on assignments as a "side line." He works in both color and black-and-white, but is primarily a "large camera" man.



16. Wire up fan, heater and thermostat. Attach a piece of #18 stranded wire to one side of the appliance cord and run it to: a. One side of fan. b. One side of heater. Next attach another piece of #18 stranded wire to the second side of the appliance cord and run it: a. To one side of thermostat. b. From second side of thermostat to second side of heater. c. To second side of fan.

18. Form four zig-zags one inch shorter than inside width of cabinet and two  $\frac{1}{8}$ " shorter than depth of cabinet. (See illustration #3 for simple jig used to bend aluminum clothesline wire for these zig-zags. Be sure to cut wire so that one inch can be turned back at each end to hold mounting screws.)

19. Install zig-zags 2" from front and back edges of the bottom of the cabinet and 2" from the top and bottom of the cabinet back. The two zig-zags made  $\frac{1}{8}$ " less than the depth of the cabinet are for hanging film and are slid between the filter support and the angles which hold it in place.

20. Form two hooks to accommodate roll film clips and install high on the center of the sides.

21. Mount door with 2 cabinet hinges and install latch.

You are now ready to force dry either film or prints. Normal time in my unit, 15-18 minutes.

## Cabinet with Built-in Palette for Photo Oils

By Jane Campbell



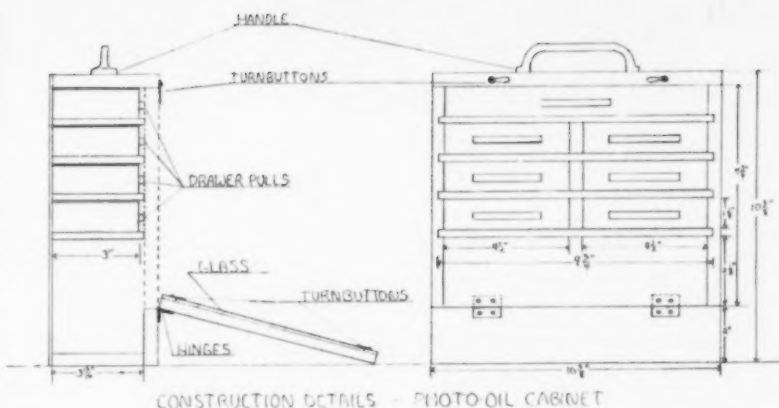
If you do any oil coloring of photographs, you probably started with a standard set of colors, adding new ones as your interest and skill increased. Then, just as soon as you exceed the capacity of the set box, the finding of suitable and convenient storage space for all your colors became a problem. The storage cab-

inet shown, or a variation of it, may be your answer to this problem.

Assemble all your coloring materials while planning construction, for your own needs and preferences will be the deciding factor in determining the size and type of box you require. The box illustrated holds cotton, medium, cleaner, skewers, small

brushes, and 60 tubes of color, with a little room to spare. Fifty-one of the tubes are the small size, seven are the medium size, and two are the large size. For my own purposes, it was quite satisfactory to divide the colors into seven general brackets: Browns, Blues (and purples), Yellows, Reds (and oranges), Portrait (various flesh, cheek, and lip colors), and Miscellaneous (blacks, white, etc.).

The cabinet was constructed of scrap  $\frac{1}{2}$ " and  $\frac{1}{4}$ " stock and the drawer bottoms were cut from heavy photo mount board. The palette is a sheet of glass edged on four sides with thin wood and held in place with small metal turnbuttons. The glass can easily be lifted out for cleaning if a small piece of tape is attached to the



underside and allowed to extend above the surface of the glass. The area under the glass can be painted white or merely covered with paper.

If made from scrap, a coat of wood filler, followed by one or two coats of enamel will give a good appearance.

## How To Make A Projection Screen

By Owen DeVilbiss

If you are thinking of installing a projection screen permanently, such as in a play room or another room set aside for projection purposes, you may want to consider the making of your own screen. The following is the technique I followed in building a screen after trying about 10 different types of material. I have found it to be suitable for stereo projection, and to have an acceptably even surface.

Obtain a piece of  $\frac{1}{2}$ -inch plywood measuring 48 inches x 48 inches, with one side perfect. Both sides and all edges should be sealed with a suitable wood sealer, as recommended by the lumber dealer. If the screen is to be used in an area in which moisture could cause warping or splitting of the wood, it might be better to secure exterior type plywood for this job. The next step is to obtain a piece of window-shade material all in one piece large enough to cover the plywood. This is glued to the perfect side of the plywood by means of wallpaper paste, care being taken to brush out all of the ridges and bubbles so that a flat surface is obtained.

The next step is to obtain two of the Aerosol-Type bombs of aluminum paint. After the pasted screen is perfectly dry, aluminum paint is sprayed on the sur-

face to cover it as evenly as possible. Two holes are drilled in the upper corners in order that the screen may be suspended from nails or by means of wires or cords. It should be suspended preferably in the area where it is to be used, and out of reach of curious people who may want to test the paint.

A little skill may be necessary to spray on enough paint to cover the screen, but not so much that the paint runs. Following a drying of at least overnight, the projector is turned on the screen without any slides in it, so that you can view the evenness of the paint job. With the projector beam falling on the screen, spray the areas that show shadows with additional aluminum paint. This process is repeated over several days until a perfectly even coating of aluminum on the screen is obtained.

When a satisfactory coating has been achieved, black binding tape may be applied to the edges to provide a finished appearing job. Following this the surface should be lightly dusted with a clean cloth. It may be advisable to provide a curtain or perhaps doors to close up on the screen when it is not in use in order to protect it from those curious testers.

# Storage of Microfilms, Sheet Films, and Prints

In recent years, photographic film has become an important documentary material. The rapidly increasing quantity and value of microfilm, sheet film, and photographic paper records used in libraries, government offices, and business firms have focused attention on the care of such records to insure longest possible life.

In general the care required for storing photographic records is little greater than the care necessary for storing written paper records.

The permanence of photographic records is dependent upon the stability of the film or paper support and the emulsion layer, the processing of the photographic material, and the conditions under which the processed material is stored. The stability of the layers is determined by their manufacture, while processing and storage are controlled by the user.

On the basis of required keeping, photographic records can be broadly classified into those for commercial purposes and those for archival purposes.

**Commercial records** are those processed and stored to provide reasonable permanence. They include those photographic records made for temporary use only, and even those made for use in current files but which may be required for as long as 10 or 15 years.

**Archival records** are those processed and stored to provide maximum permanence, perhaps hundreds of years. Actually, any pictures or records which cannot be replaced and which are likely to be of lasting interest should be included in this category. Historical records on microfilms, sheet films, or photographic papers are examples.

Regardless of the intended life of the records, every effort should be made to process photographic materials and to store the records under conditions which provide the best possible keeping characteristics. It is impossible to assign a definite figure for the expected life of a record without reference to the storage conditions. The thoroughness of processing treatment which is economically justifiable for commercial records does not entirely preclude eventual deterioration but, if it conforms to the specifications given in this pamphlet, should provide a service life of 15 years or more if elevated humidity and temperature are avoided. Under unfavorable storage conditions a visible change may occur in a much shorter time. In any case the processing and storage conditions recommended here for commercial records are intended at least to provide for retention of legibility.

## PERMANENCE OF FILM BASE AND PHOTOGRAPHIC PAPER BASE

Kodak, Recordak and Kodagraph films supplied for microfilming applications are made only on safety base and meet the re-

quirements of the National Bureau of Standards<sup>1</sup> and the American Standard Specification for Films for Permanent Records,<sup>2</sup> provided that they are processed as recommended for this purpose. Safety film base is chemically very stable and is believed to last as long as the best rag papers if stored under normal conditions.

All Kodak papers are made on high-grade paper stock which is made from highly purified wood pulp. Experience has shown that many high-grade book papers have retained their original characteristics for several hundred years. Accelerated aging tests made by the National Bureau of Standards<sup>3, 4</sup> have indicated that photographic paper stock is as permanent as the high-grade book papers tested. It is therefore reasonable to assume that properly processed photographic prints will keep as long as these book papers, especially when stored under preferred conditions.

Nitrate-base films decompose with age and are not suitable for permanent records. Furthermore, such films should never be stored with safety-film records because gases given off by decomposing nitrate film will damage or destroy the image on safety film records. Information on the proper storage of nitrate film can be obtained by writing to the National Fire Protection Association, 60 Batterymarch Street, Boston, Massachusetts.

It is not always possible to determine by visual examination whether a film is on nitrate or safety base. However, Kodak microfilms in either 16mm or 35mm width and Eastman 16mm motion-picture films have never been made on nitrate base. Eastman 35mm motion-picture films were made largely on nitrate base prior to 1951. Old roll-film and sheet-film negatives may also be on nitrate base. Positive methods for differentiating between nitrate and safety film are described in the booklet **Hazard in the Handling and Storage of Nitrate and Safety Motion Picture Film**, which is available on request from the Motion Picture Film Department, Eastman Kodak Company, Rochester 4, New York.

## PROCESSING FOR PERMANENCE

The processing procedure can have a very important effect on the potential permanence of photographic records.

In the fixing step, the unused silver salts in the emulsion are converted to soluble silver thiosulfate compounds which accumulate in the fixing bath. When a bath is overworked, so that its silver content becomes too high, some of these silver salts are retained by the photographic film or paper, and will not be removed in the washing. Under poor storage conditions they can break down to produce a yellow stain of silver sulfide.

Washing is necessary to remove the fixing chemicals. If any thiosulfate (hypo) is left in the material, it can react with the silver grains of the image, causing discoloration and fading. This action is greater the smaller the grain size of the image. It also is accelerated greatly by high humidity and temperature. The permissible limits for residual hypo given in this booklet have been placed at levels which are low enough to cause no visible impairment of the image after moist incubation as specified in the American Standard PH4. 12 - 1954.<sup>5</sup> They are safe for those records where slight-staining would be unacceptable, and have a considerable safety factor where retention of legibility is the sole consideration.

**Complete Fixing:** In the preparation of photographic records the use of two fixing baths in succession is recommended.<sup>6, 7, 8</sup> The time of treatment in each of the baths should be equal to one-half the normally recommended fixing time. The records should be agitated frequently during the time in each bath, in order to assure thorough action over the entire surface. The preferred temperature range for fixing is 65 to 70 F. Prolonged fixing should be avoided, since it tends to cause greater retention of silver compounds and hypo, particularly with paper prints.

The following is a suggested practical procedure: After the baths have been used for processing 16,000 square inches of paper or 8,000 square inches of film per gallon, the first bath is discarded and replaced with the partially used second bath which is itself replaced with a fresh solution. This procedure can be followed through five cycles before both baths should be discarded and replaced with fresh solution. With this procedure, the records are given a final fixing in an essentially fresh solution. When followed by thorough washing this assures removal of the silver thiosulfate compounds.

The thoroughness of fixing of films and particularly photographic prints can be determined, after washing, by testing the emulsion side with Kodak Residual Silver Test Solution ST-1. The working solution is 0.2 percent sodium sulfide. Any coloration produced by the formation of silver sulfide in excess of a just-visible cream tint indicates the presence of silver compounds in the emulsion. Kodak Sodium Sulfide, or other sodium sulfide meeting the requirements of American Standard Z38. 8. 182 - 1949, should be used. Usually, a 2.0 percent stock solution is diluted just before use with nine volumes of water to obtain the 0.2 percent solution, which is unstable and should not be kept for more than a week.

**Complete Washing:** For efficient washing a rapid flow of water should be used. Twelve complete changes of the volume of water per hour is a safe criterion.

Whenever possible, the wash water tem-

<sup>5</sup>Reprinted from Kodak pamphlet F-11, copies of which may be obtained on request from Sales Service Division, Eastman Kodak Co., Rochester 4, N. Y.



perature should be held within the range of 65 to 75 F, washing is very much slower at lower temperatures.

For photographic films, treatment in a bath of Kodak Hypo Clearing Agent after fixing will greatly increase both the rate and the thoroughness of hypo removal in the subsequent washing. Similarly, Kodak Balanced Alkali is useful as an aid in washing prints. After fixing, the prints should be rinsed thoroughly in water, then treated in an approximately two percent solution of Kodak Balanced Alkali for two minutes, and then washed in the usual manner. This treatment will effectively decrease the time of washing required, though it has some tendency to soften certain emulsions, and may change their ferrotyping characteristics.

Permanent records on films should be washed sufficiently to reduce the residual hypo content to the values shown in the following table. The hypo content can be determined by the mercuric chloride-potassium bromide test of Crabtree and Ross,<sup>9, 10</sup> or, for routine control of processing, it can be checked with the Kodak Hypo Estimator, used in conjunction with Kodak Hypo Test Solution HT-2, as described on page 45. Microfilm records with a residual hypo content within the specification for Class I films will meet the requirements of American Standard Z38.3, 2 - 1945,<sup>2</sup> and the specifications of the National Bureau of Standards.

For archival records in the form of continuous tone photographic prints essentially all the residual hypo should be removed in order to avoid a possibly objectionable tone change. Therefore, it is recommended that the Hypo Eliminator HE-1 be used. The effectiveness of the hypo removal can be checked quantitatively by a modification of the test with Kodak Hypo Test Solution HT-2.<sup>11, 12</sup> Additional protection against external agents, such as atmospheric gases, can be obtained by treating the prints in the Kodak Gold Protective Solution GP-1.

For commercial or short-term storage under average conditions in temperate climates, normal film processing as recommended by the manufacturer is adequate. Washing should provide reasonably complete removal of hypo from photographic papers. When prints washed to meet the ordinary commercial requirements are kept longer than anticipated, some stain or fading may develop, but ordinarily it will not impair the legibility of the records, especially with line-copy prints. The Kodak Hypo Estimator in conjunction with the Kodak Hypo Test Solution HT-2 provides a convenient means for checking the thoroughness of washing with either films or papers.

## STORAGE

Photographic records should not be stored in a damp atmosphere because of the danger of damage by mold. Also, high humidity may cause films to buckle or flute.<sup>13</sup> Some film reels will corrode at high humidity, and rust particles may damage the image. Reels of plastic or corrosion resistant metal will minimize this trouble.

Film which is to be used in a projector or other viewing device should not be stored in an extremely dry atmosphere because it tends to become brittle and may

be cracked or broken if handled carelessly. Kodak safety film base has been greatly improved during the past twenty years, and film of recent manufacture gives little trouble from brittleness.

## Periodic Inspection

The keeping properties of photographic records depend to a large extent on the atmospheric conditions and the manner and frequency with which the film is used. Films and other records should be inspected at regular intervals—every two years in temperate climates and at least every three months in humid climates is suggested. If they appear satisfactory, no special treatment will be required. However, if there is indication that they are not keeping properly, the storage conditions should be improved by more adequate control of the temperature and relative humidity. Copies should be made of any films that show signs of deterioration.

## COMMERCIAL STORAGE

In general, assuming the absence of possible contamination from water or chemical fumes, no special preparations are necessary for storage periods up to about 10 or 15 years if the fixing and washing have been reasonably thorough. Ordinarily, microfilms are filed on lightweight reels in cardboard cartons. This is satisfactory for most situations, but the use of individual reel storage cans is desirable in certain special cases which are discussed in some of the following sections.

Where it is desirable to retain records as long as 15 years and more but it is not economical to provide archival storage facilities, careful consideration should be given to the various factors which affect the life of records so that improvised conditions may be made as satisfactory as possible.

**Fire Protection:** The same precautions against damage by fire should be taken for photographic records as for paper records of comparable value. Recommendations have been prepared by the National Fire Protection Association.<sup>14</sup> Where a considerable quantity of records is involved, a fire resistant storage vault is desirable. For smaller quantities of records, fire resistant cabinets and safes of the type approved by the National Board of Fire Underwriters provide considerable protection against loss by fire.

Exposure to excessive heat will cause film to buckle because of shrinkage at the edges. When it is severe, this distortion affects the ease with which the information can be taken from microfilms, either by projection for reading or by printing onto another film. Tests indicate that records on Kodak Micro-File Film which have been conditioned at a relative humidity of 50 percent or lower will stand 24 hours at 250 F without significant loss in readability or printability. At 300 F some damage may occur in six hours, and at 350 F the distortion is severe in six hours. Films which have been conditioned at higher humidities may show objectionable distortion in somewhat shorter times or at lower temperatures. Such higher humidities, however, are undesirable for other reasons, as explained in following sections.

Fire resistive safes and cabinets make use of a type of insulation which releases moisture when heated. As a result, during

a fire exposure the interior of the safe is generally filled with steam. This can cause melting or stripping of the emulsion layer, with consequent loss of the image. To provide protection against this hazard, films stored in such a safe should be placed in moisture-tight cans, as described on page 44. It is important that the films be in equilibrium with a relative humidity below 60 percent when they are sealed in the moisture-tight cans.

The question is sometimes raised as to whether microfilm stored in drawers or cabinets designed to resist fire for several hours might generate enough pressure, in the event of a fire, to damage or explode the cabinet. There are small amounts of organic materials, as well as moisture, in film which will expand under heat and, under some conditions, might generate slight pressure. However, such intense heat would be required on the outside of the fire-resistant cabinet that the cabinet would be seriously damaged from the fire before appreciable pressure developed. There is no danger of an explosion from the storage of safety film under these conditions.

**Flood Protection:** Where possible, the storage facilities should be located above basement levels, and should be adequately drained.

In the event that the storage area should become flooded, as soon as the flood waters recede prompt steps should be taken to reclaim any records that were immersed, before they have partially dried. If there are no local facilities for rewashing and drying the films immediately, they should be placed in a water-filled container and sent to a laboratory where they can be properly washed and dried.

**Storage Relative Humidity:** The optimum relative humidity for the storage of photographic records is 40 to 50 percent.

High humidities are more dangerous than low humidities. The former can result in more or less complete destruction of the record, whereas the latter will not.

Relative humidity is best determined by means of a sling psychrometer or equivalent. Where space does not permit the use of a sling, a dial-type hydrometer, or wet-and-dry-bulb thermometers located in the air stream of the ventilating system, can be used if they are checked periodically with a sling psychrometer.

Storage of photographic film records at relative humidities over 60 percent, frequently found in damp cellars and prevalent in tropical and semitropical climates, should be avoided. Under these conditions mold damage is possible. If severe climatic conditions, with high humidities, are likely to be encountered for periods, or if mold growth and deterioration of the records are encountered, means must be employed to reduce the humidity.

Electrically operated refrigeration-type dehumidifiers, generally costing under \$200.00, can be used to reduce the humidity in an air-tight storage area to the desired level. Refrigeration dehumidifiers can be obtained from the Frigidaire Division, General Motors Corporation, Dayton, Ohio; Fresh-Air Company, 221 North LaSalle Street, Chicago 1, Illinois; or the

Walton Laboratories, 1186 Grove Street, Irvington 11, New Jersey. The walls of the storage space should be vapor-sealed by first coating them with asphalt paint, aluminum paint, or, better, paper-laminated aluminum foil. A humidistat should be used to control the dehumidifier automatically at about 40 percent relative humidity.

Small quantities of records can be protected against humid tropical climates by storing them in a box or cabinet heated by an electric lamp. The lamp installation must not create any fire hazard, and it should not raise the temperature more than 10 F above the prevailing room temperature. This will usually lower the relative humidity approximately 20 percent. If the records are seldom used, so that essentially the film is in dead storage, it can be kept in hermetically sealed containers after it has been partially dried by being left for two or three weeks in a desiccator with a suitable quantity of activated silica gel\*. After it has been dried, the film should be transferred quickly and sealed in a container such as a friction top can or a sleeve type can sealed with a good quality rubber-base adhesive tape on the overlapping edge of the cover.

Unless the prevailing relative humidity is under 25 percent for considerable periods of time and the film is in frequent use, humidification is not necessary. Microfilm storage cabinets equipped with a tray for water or humidification purposes should be used with caution. Avoid overhumidification by too liberal or too frequent additions of water. Although it has been suggested by some that saturated solutions of certain chemicals could be used to maintain a constant relative humidity, experience has shown that the dangers of corrosion and chemical contamination of the records outweigh any advantages to be gained. Therefore, do not use chemical solutions in the storage cabinets.

**Storage Temperature:** Ordinary room temperatures are generally considered satisfactory for the short-term storage of developed film. In the case of color films, low temperature favors the preservation of the dye image. However, if the refrigeration temperature is below the dew point of the outside air, the film must be allowed to warm up in a closed container to avoid condensation of moisture on the film. For this reason, refrigeration is seldom advantageous for the storage of developed film, and in any event it is much more important to control the relative humidity.

**Chemical Contamination:** An oxidizing or reducing atmosphere may cause deterioration of film base or paper and gradual fading of the photographic image. Typical examples are fumes of hydrogen sulfide and sulfur dioxide (usually present in coal-burning regions) and paint fumes, etc. When it is known that such fumes are present in the intended storage space, steps

should be taken to eliminate the fumes<sup>13</sup> or to protect the film from contact with the atmosphere.

#### ARCHIVAL STORAGE

Valuable records on film or paper which are to be preserved indefinitely should be fixed and washed properly, as discussed in the section on "Processing for Permanence," and every precaution should be taken to provide the safest storage conditions. Organizations interested in the preservation of archival records should not consider makeshift or temporary arrangements.

The storage vault or record room should be located and constructed in accordance with the building code, the Fire Underwriters Regulations, and the requirements of the National Fire Protection Association for a valuable record room, except that an approved controlled air-conditioning installation should be permitted. Sufficient insulation should be provided to permit satisfactory temperature control at all seasons of the year, and to prevent moisture condensation on the walls.

The storage space should be automatically air conditioned at 40 to 50 percent relative humidity and between 60 and 80 F, preferably near 70 F, depending on the dew point of the outside air. Low temperature favors preservation, but if the storage space is below the dew point of the outside air, the records must be allowed to warm up in a closed container before they are used, in order to prevent condensation of moisture.

It is realized that the National Fire Protection Association advises against the use of air conditioning in valuable-paper record rooms, because of the possible fire hazard from outside. However, properly controlled air conditions are considered essential for the long-term preservation of archival films. The fire hazard introduced by the openings in the room for air-conditioning ducts may be overcome by the use of Underwriters-approved automatic fire-control dampers installed in the ducts in accordance with recommendations of the National Fire Protection Association.

The air should be filtered to remove dust, cleansed of reactive gases where necessary, and circulated under slight positive pressure. Sufficient fresh air should be supplied to provide for personnel working in the room. Atmospheric contaminants, such as paint fumes, hydrogen sulfide, sulfur dioxide and similar gases may cause slow deterioration of film base or paper and gradual fading of the photographic image. The removal of such gases from the air requires special consideration.<sup>13</sup> These contaminants can come from illuminating gas, coal gas, and certain chemical plants, and they are present in harmful concentrations in most industrial and urban areas. When a contaminated atmosphere cannot be avoided, a chemical engineer should be consulted to help select the purification method best suited to the particular circumstances.

Records should be stored in metal cabinets with adjustable shelves or drawers, depending on the filing requirements. The walls of the cabinets should have louvers or openings located so as to facilitate the circulation of conditioned air through the

cabinets, and the cabinets should be spaced in the room so as to permit the free circulation of air around them.

The records should be protected from water damage, whether from leaks, fire sprinkler discharge, or flooding. Drains should be provided that have sufficient capacity to keep the water from sprinkler discharge from reaching a depth of three inches. The storage cabinets should be raised so that the lowest shelf or drawer is at least six inches off the floor, and should be constructed so that water can not splash through the ventilating louvers onto the records.

Separate cans for individual rolls of film give additional protection against damage from water, fire, and physical injury. However, in the case of microfilm which is in frequent use outside of the storage room, where it may become too dry or too moist, the standard cardboard carton will permit more rapid reconditioning of the film to the controlled relative humidity of the storage space. Periodic inspection of representative samples is desirable, even under the recommended archival storage conditions.

#### SPECIAL STORAGE

A number of people charged with the protection of microfilm collections have become interested in underground storage locations which would be safe in the event of bombing or similar catastrophe. Caves, tunnels, subbasements and similar locations are sometimes damp. If the normal relative humidity in the storage location is above 50 percent, special care must be taken to prevent moisture damage. Since such records will not be in active use, a practical and effective procedure is to condition the films to the proper humidity, and then seal them in vapor-tight containers as described previously.

#### STORAGE OF SHEET-FILM RECORDS

In the case of sheet films, the manner of packing is also of considerable importance. Sheet films are usually filed in individual envelopes which must be of a type suitable for this use. The paper and adhesive used in making the envelope should meet the requirements of the American Standard for Photographic Filing Envelopes,<sup>16</sup> so that they will have no harmful effect on the photographic image. The envelope seams should be narrow and near the edge of the envelope rather than in the center. Negatives should be inserted in the envelopes with the emulsion side away from the seam, and the envelopes should be stored on edge, with just sufficient pressure to prevent bending. Excessive pressure, as at the bottom of a pile of negatives or in a very tightly packed file drawer, should be avoided.

#### HANDLING AND FILING FILM RECORDS

Appropriate precautions in the handling of film records and well-planned filing systems are important in the storage of archival records. It is assumed that the custodian will set up appropriate safeguards against loss or misplacement of valuable records. In addition, he should make sure that the methods of filing and handling do not hasten unduly the wear of

\*About 1 ounce of activated silica gel is required per 100 feet of 35mm film or 200 feet of 16mm film or the equivalent. The silica gel may be purchased from many photographic dealers, and from the Davison Chemical Corporation, Baltimore 3, Maryland. After use, silica gel can be reactivated by being heated in an oven for 30 minutes at 300 to 400 F. For additional information on this subject, refer to the Kodak Publication Prevention and Removal of Fungus Growth on Processed Photographic Film.

records. Where films are in frequent use, duplicates should be made for this purpose and the originals retained in storage.

Continual handling of film, even under reasonably favorable conditions, almost inevitably causes some wear, but deterioration may be accelerated greatly by certain factors which can be controlled. Scratching occurs if the film is dirty or the equipment poorly maintained or wrongly used; cinching is caused when the film is allowed to slide, layer on layer; and tearing and fingerprinting occur if the equipment and handling methods are not suitably chosen for the work.

Slip-on transparent Kodapak sheaths for sheet films and covers of Kodapak sheeting for paper prints afford protection from fingerprints and abrasion. Storage of films and prints protected in this manner should be at relative humidities below 60 percent to prevent ferrotyping which produces shiny spots on the emulsion surface. Generally, these do not show on prints made from the film.

Dirt can be removed from the film by wiping it with a lintless fabric pad moistened with Kodak Film Cleaner. The cleaning operations should be carried on in an atmosphere of about 50 percent relative humidity. Low relative humidities should be avoided because of the danger that the film will become electrically charged and attract dust particles. Non oily dust can be removed by careful wiping with short-nap silk plush. Needless to say, cleanliness of the work space is essential to success in these operations. Suggestions for improvement in handling operations are to be found in Section 1 of the 1940 Report of the Committee on Preservation of Film of the Society of Motion Picture Engineers.<sup>17</sup>

The use of a compressed-air brush and a special enclosed dust-free wind-up may be advisable in the case of the most valuable strip-film records. The provision of automatic tension control or devices for winding film tightly is the best safeguard against slippage and consequent cinching.

#### Protection Copies

In addition to the extra copies mentioned previously for records in active use, it is frequently desirable to provide duplicate copies which can be stored at some place remote from the primary archives. Then, if the archives should be destroyed by some catastrophe these duplicate "protection copies" will still be available to supply essential information.

#### Kodak Hypo Estimator

The Kodak Hypo Estimator, used in conjunction with Kodak Hypo Test Solution HT-2, provides a simple and rapid procedure for determining the residual hypo content in processed films. It consists of a cellulose acetate sheet carrying a series of color tint patches to provide a comparison reference for interpretation of the stains produced by the Test Solution. The colors and densities of the patches match those of the test spots obtained on films with various hypo contents, ranging from 0.005 to 0.10 milligram of anhydrous hypo per square inch. Complete instructions for interpreting the test are supplied with the Hypo Estimator.

In the case of photographic papers the Hypo Estimator can be used to obtain a

qualitative estimate of the degree of washing, but it cannot provide a quantitative interpretation. Also, when hypo eliminators or washing aids have been used, the spot test may give misleading results. In such cases it is necessary to stabilize the test sample to prevent darkening of the excess silver nitrate, then determine the optical density of the stain by transmitted light and read the equivalent hypo content from a calibration curve.<sup>11, 12</sup>

#### KODAK HYPO TEST SOLUTION HT-2 For Testing the Degree of Washing of Films and Papers

	Avoidupois U. S. Liquid	Metric
Water .....	24 ounces	750 cc
*Kodak Acetic Acid, 28% .....	4 ounces	125.0 cc
Kodak Silver Nitrate .....	3/4 ounce	7.5 grams
Water to make .....	32 ounces	1.0 liter

\*To make approximately 28% acetic acid from glacial acetic acid, dilute 3 parts of glacial acetic acid with 8 parts of water.

Store in a screw-cap or glass-stoppered brown bottle away from strong light. Avoid contact of test solution with the hands, clothing, negatives, prints, or undeveloped photographic materials; otherwise black stains will ultimately result.

**Test for Washing:** After washing, cut off a small strip from the clear margin of the film or print and immerse a portion of it in a small volume of the test solution for about 3 minutes. Any discoloration of the treated strip indicates the presence of hypo, and the degree of stain shows the relative amount of hypo. Well washed films including those for record purposes usually show little or no coloration; with commercially washed films a light brown tint may be tolerated. Well washed prints usually show a very light brown tint. A darker tint indicates insufficient washing.

When the washing is known to be fairly thorough, a quick spot test can be made on the face (emulsion side) of a print or the face side of a blank piece of the same photographic paper carried through the processing with the batch of prints. Remove excess water by wiping or blotting the face of the print, apply a drop of the test solution, allow 2 minutes for the solution to react, rinse to remove the excess reagent, and judge immediately the depth of the stain as described above.

**NOTE:** The excess silver nitrate will darken on exposure to light. Therefore, even if the test shows adequate washing, return the print to the wash water for 2 or 3 minutes in order to remove as much as possible of the test solution.

#### HYPO ELIMINATOR HE-1

##### For Professional and Amateur Use

	U. S. Liquid	Metric
Water .....	16 ounces	500 cc
Hydrogen Peroxide (3% solution) .....	4 ounces	125.0 cc
*Ammonia Solution .....	3 1/4 ounces	100.0 cc
Water to make .....	32 ounces	1.0 liter

**Caution:** Prepare the solution immediately before use and keep in an open container during use. Do not store the mixed solution in a stoppered bottle, or the gas evolved may break the bottle.

\*Prepared by adding 1 part of concentrated ammonia (28%) to 9 parts of water.

**Directions for Use:** Wash the prints for about 30 minutes at 65° to 70°F (18° to 21°C) in running water which flows rapidly enough to replace the water in the vessel (tray or tank) completely once every 5 minutes. Then immerse each print about

6 minutes at 68°F (20°C) in the Hypo Eliminator HE-1 solution, and finally wash about 10 minutes before drying. At lower temperatures, increase the washing times.

**Life of HE-1 Solution:** About fifty 8 x 10-inch prints or their equivalent per gallon (4 liters).

#### Occasional Effects When Using the Peroxide-Ammonia Treatment (HE-1)

1. Slight tendency for the prints to stick to belt on belt dryers. To prevent this effect, bathe the prints about 3 minutes in a 1 per cent solution of formaldehyde prior to drying.

2. An almost imperceptible change in the image tone. To prevent this effect, add 15 grains of potassium bromide to each quart (1 gram per liter) of the peroxide-ammonia bath (HE-1).

3. A very faint yellowing of the whites (undetectable on buff papers). To minimize this effect, bathe the prints in a 1 per cent sodium sulfite solution for about 2 minutes immediately after treatment in HE-1 and prior to the final wash.

#### KODAK GOLD PROTECTIVE SOLUTION GP-1

##### For Increasing the Permanency of Silver Images

	Avoidupois U. S. Liquid	Metric
Water .....	24 ounces	750 cc
*Kodak Gold Chloride, (1% stock solution) .....	2 1/2 drams	10.0 cc
Kodak Sodium Thiocyanate .....	145 grains	10.0 gms.
Water to make .....	32 ounces	1.0 liter

\*A 1% stock solution of Kodak Gold Chloride may be prepared by dissolving the contents of 1 tube (15 grains) in 3 1/4 ounces of water (1 grain in 100 cc of water).

Add the gold chloride stock solution to the volume of water indicated. Dissolve the sodium thiocyanate separately in 4 ounces (125 cc) of water. Then add the thiocyanate solution slowly to the gold chloride solution, while stirring the latter solution rapidly.

**For Use:** Immerse the well-washed print (which preferably has received a hypo elimination treatment) in the Gold Protective Solution for 10 minutes at 68°F (20°C) or until a just-perceptible change in image tone (very slightly bluish-black) takes place. Then wash for 10 minutes in running water and dry as usual.

**Approximate Exhaustion Life:** Thirty 8 x 10-inch prints per gallon. For best results, the Kodak GP-1 solution should be mixed immediately before use.

**Films and Plates:** The above procedure may also be used with fine-grain images on films and plates when maximum permanency is desired.

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# Technique Pointers

BY MAURICE H. LOUIS, FPSA

For the novice photographer, I know of no greater thrill than the first time he sees the latent image of a picture he has taken begin to form as a real image on a sheet of emulsion-coated paper in a developing tray. Through the mysteries and science of photography, a scene first recorded on the human mind is transposed into a tangible and permanent record.

Printing is the culminating stage of this fascinating process. It is made additionally interesting because it allows the photographer to utilize his creative abilities. Not only can he present the subject matter as the camera lens saw it but he can, if he so desires, change this literal representation into a purely emotional one. With the great strides made in tools and techniques, only the worker's imagination and ability limit the controls he wishes to exercise.

Enlarging is comparatively simple if we do not make it any more difficult than necessary. In no other phase of photography is there so much easy-to-understand information available to assist the inexperienced. Ansco and Kodak, as well as many other manufacturers, publish excellent inexpensive handbooks. For the more serious-minded, I can recommend: "Bigger and Better Enlarging" by Don E. Nibbelink, FPSA, FRPS, and "Photographic Enlarging and Print Quality" by the late J. Ghislain Lootens, FPSA, FRPS.

This is the third and final article on Processing. With so much material on this subject, I have tried to restrict my-

self to items of general interest which I feel are important enough to bear repeating or those pointers which may have been overlooked.

## Projection Printing

ENLARGERS range from condenser to diffuser types and the range includes those which combine some qualities of both. Illumination is provided by different types of incandescent bulbs or by fluorescent tubes sometimes known as cold lights. Variations in paper spectral sensitivities, and in spectral quality of light sources are such that they make accurate comparisons of light sources nearly impossible. Personal test under limited conditions is about the only impartial evaluation.

My observations over a period of years reveal that the majority of serious amateur photographers make their projection prints from negatives of about 2½"x2¼" in size with condenser enlargers employing a tungsten light source.

An enlarger is a precision instrument and should be treated with the same care as a camera. Protect the lens with a cap and the entire machine with a dust cover.

Light sources deteriorate with use. Your eyes won't note any material change in intensity so make periodic tests with an exposure meter or play safe and buy a new bulb.

DUST is probably the greatest enemy of enlarging, especially if one is making big blow-ups from small negatives. Be-

cause of the minute particles which float in the air and the static which attracts them, constant attention is required to hold their effect to a minimum. I say minimum because without air conditioning and laboratory conditions the complete elimination of dust is impossible. Here are some suggestions you might try to help solve this problem.

Wash condensers in mild soap or detergent solution each time before use. Especially in cities, it is surprising how oily they become, even over night, thus attracting dust.\* Naturally, lenses should be cleaned with the proper tissue. Ground your enlarger to water or radiator pipe. The inside of the leather bellows can be given a light coating of oil or vaseline in order to attract and hold particles.

A camel's hair brush, rubber syringe, glass rod covered with silk, anti-static brush and spray will all help to clean negatives as well as the enlarger.

Bernard M. Acosta, APSA, formerly of Saranac Lake, N. Y., permanently installed a small tank-type vacuum cleaner next to his enlarger. Before printing, he would "hose" the negative and surroundings. This may sound funny but it worked.

\*Astronomers cover telescope mirrors after each use for the same reason. A round card is enough.

TWO HANDS are better than one. If you plan to do much enlarging it is wise to invest in an automatic timer and a coupled foot switch. You will be surprised to find how much easier it is to work, especially when dodging, when you have two free hands.

I also feel that you can't have too many timing devices because accuracy is so important in processing. I consider a large sweep-second clock near the developing tray to be essential. A bell-ringing timer to keep track of prints in the fixer will prevent them from getting too little or too much hypo.

COMPOSITION AND FOCUSING are made much easier if a sheet of double weight white glossy paper is placed in the easel. It is made serviceable by first developing an unexposed sheet, then fixing and drying it similar to your regular processing technique. A magnifying glass, made for the purpose, will greatly aid in focusing.

TRAYS should be over-size. If only slightly larger than the print to be processed, damage to corners may result. Don't stint on solutions for it is better to use too much than too little. Make certain that prints are fully submerged.

Tongs will reduce the hazard of finger marks and prevent blackened nails. Use two, properly marked, one for the developer and the other for stop bath



and fixer. Some tongs have sharp edges which should be covered with adhesive tape to prevent damage to prints.

My trays are placed on a wooden work bench which I keep covered with several thicknesses of old newspapers during operations. This absorbs spilled-over solutions and the papers are easily disposed of after each session.

PAPERS carry the final photographic image, and the manipulation of the papers is considered by many to be the primary factor in obtaining fine print quality. Like so many stages of the photo-chemical process, no one tool or technique is totally responsible for the final result—there are many interrelated factors. This is equally true of paper selection.

Some papers come in different grades (zero to 5) to accommodate varying degrees of negative contrast while others are made in the normal grade (2) only. There are also variable contrast papers (Dupont Varigam, EK Polycontrast, Ilford Multigrade) which by means of filters can produce different contrast on the same paper.

Surfaces range from glossy which will yield the greatest range of densities or "tones" to rough textures which will reduce detail and can emphasize mass. The pictorialist often selects a surface in between these extremes—a fine-grained lustre—which produces richness and a fairly full scale of densities without much loss of definition. The emulsions are coated on white, cream white and ivory stocks, each best suited for a particular purpose.

In the past much emphasis was placed on the speed of a paper, a factor which is of much greater importance to the professional than the amateur. Papers were characterized as "slow" or "fast." Today, with most emulsions being speeded up, many of the slower papers are no longer made. Now there is a greater tendency to use image tone to classify them.

Generally speaking there are two groups. Those papers which produce olive-brown or brown-black tones are known as "warm," while those which yield blue-black or neutral black tones are considered to be "cold" papers. This classification can not be considered absolute because there is bound to be some overlapping.

In the "warm" group we have: Ansco Cykora and Indiatone; DuPont Warmtone; and EK Ektalure, Illustrators Special, Medalist, Platino and Opal. The cold category includes: EK Kodabromide, Ansco Jet and DuPont Velour Black.

As stated above, each factor is related to another. The enlarger and illumination we employ, the kind of de-

veloper we use and the length of exposure and development ALL contribute to the contrast and image tone of the finished print. Like an accordion when pulled out, each fold of the bellows is attached to the other.

The inherent characteristics of papers vary, even those made by the same manufacturers and this factor must always be taken into consideration. The beginner would be wise to follow the manufacturer's recommendations which will be given in *average* times.

Image tone can be varied to some degree by development but basically a cold-tone paper can not produce warm tones by the use of a warm-toned developer. Nor can warm-toned papers produce cold tones by the use of a cold-toned developer.

The following are classified as "cold" developers: Ansco Vividol and 125, EK Dektol and 72, DuPont 53-D. Warm developers are: Ansco Ardol and 135, EK Selectol and 52, DuPont 55-D, Edwal 106.

While overexposure and underdevelopment will reduce contrast as well as producing a warmer-toned image and underdevelopment and overexposure will increase contrast and make a more brilliant print, the control is relatively little. It is far better to select the proper paper and matching developer.

Exposure determination must be accurate and the test-strip method is the one most commonly used. To simplify this procedure, a Kodak Projection Print Scale (\$1.15) will prove extremely useful.

From the above, it can easily be seen that we can't grab any sheet of paper and come up with a good enlargement. Granted that we have a negative of normal contrast, the purpose to which we are going to put the print (commercial, exhibition, personal), subject matter and our personal preferences (unfortunately, often biased) will greatly influence the selection of the paper we use. As I state under the later heading of "Toning," I feel that amateurs have a tendency today to standardize far more than is good for them. There is no denying that it is best for the beginner to master one paper and one developer first. But after he does, if his curiosity fails to tempt him to try others he is only restricting the scope of his photographic activities.

CONCENTRATED DEVELOPER is a great boon to printing. Burning-in (added exposure) an area such as light clothing, over-exposed faces and too bald skies may not be sufficient. Applying stock strength developer with a long wooden, cotton-tipped swab will usually complete the job. The developer will work better if warm and fresh. Put an ounce or two of undiluted developer in

a graduate which in turn is placed in a partly filled glass of warm water. Discard solution after use.

Another trick to bring out detail and texture where other methods fail is the use of Amidol. Dissolve enough Amidol to cover a dime in about 2 oz. of paper developer. During development, take print out of tray, swab area to be intensified and return to solution. Why this does not change image tone, I don't know.

CORRECTLY EVALUATING a print in the darkroom when wet or while it is submerged in a liquid solution is one of the hardest techniques a novice has to learn. When it dries down, density and contrast in the shadow areas will be considerably lower.

I like to check a print by taking it out of the wash after a couple of minutes, placing it between blotters to absorb surface moisture, and examine it under bright white light. If you wait until the next morning when your prints are dry, you will be surprised at what you might see—uneven development, stains, flatness and what-not. My method allows me to correct mistakes at the time they are made.

STOP BATHS won't remain fresh all night. Carbon dioxide from the air will neutralize the acetic acid. 1½ oz. of 28% acetic acid in a quart of water is only effective for treating about twenty 8x10's or seven 16x20's. Unless you can remember to discard and replace an exhausted stop bath, you better use one of the indicator type solutions which will visually tell you when to change.

HYPO is the cheapest chemical used in photography yet it is one of the most important. Waiting for an acid fixing bath to froth up or feel slimy is a pretty inefficient way to tell whether it is exhausted. There are a number of inexpensive testing outfits on the market for this purpose so one will be a sound investment. *Never* use the same bath for both prints and film.

Remember that over-fixation is as bad as not enough. Naturally a new bath will work faster than one which has been used before. The same applies when the temperature of the solution is greater than 68-70°. In both instances it is necessary to compensate for these variations from the norm.

Years ago, many authorities warned that prints to be toned should be fixed in an acid bath without hardener. Today this recommendation no longer appears to be valid. There is one exception I have found from personal experience. If I have to do considerable reducing and dye spotting on the print emulsion, it is more difficult if there was hardener in the fixer.

WASHING the hypo out of a print is as important as getting it in. Unfortunately this process is not as simple as it sounds. Many photographers have a tendency to hurry this uninteresting chore. Also, most non-professional devices fail to do the job efficiently when more than a few prints are washed at one time.

To insure prints from fading and yellowing with age, as well as to insure proper toning, wash double weight prints in water which is at a temperature of 70°F. If water is colder, the process takes considerably longer. In either instance, continually watch to see that prints do not adhere to each other. I like to shuffle them whether they need it or not.

Washing time can be reduced as much as 300%, especially if water temperature is below 65°, by the use of a Hypo Neutralizer. BFI claims that after treatment with their product, hypo can be washed out of prints quickly even if water is as cold as 35°F.

TONING can improve some prints but it can also lessen the effectiveness of others. The actual procedure is simple but like all chemical processes much can go wrong. One has to begin with a proper print for toning, then extreme caution must be exercised at each step.

Prints to be toned should ordinarily be fully developed, fixed in a fresh hypo bath and washed thoroughly. In selenium toning, a Kodak or Hypo Neutralizer bath is recommended following fixing.

Actually much toning would be found unnecessary if amateurs would experiment with a greater variety of papers and developers. Many different and beautiful brown shades can be obtained with a Glycin developer (Ansco 115, Edwal 106, Gevaert 261) on warm papers which are as pleasing if not superior to those which come by toning.

With photography traveling in faster and more orthodox channels, it would be wise for imaginative workers to try lesser known products and techniques. They may be surprised where these by-ways will lead them and their prints will have a far better chance of earning distinction.

DRYING is the final stage of the projection process (aside from after-work) and it normally presents no special problems. Excess water should be drained, then swabbed off of prints. While curling occurs mostly during cold weather when the moisture in the air is low, I advise the use of a Print Flattening Solution (Ansco Flexigloss, BFI #20, Kodak) all year 'round. Prints treated in such a bath, between washing and

drying, will absorb moisture which prevents curling, makes them flexible and facilitates their handling. Methods of drying are fairly limited and I find that the jumbo blotter rolls the most satisfying.

CONCLUSION. It is hoped that this three-part series will prove beneficial to readers, especially the inexperienced who need help the most. Continually bear in mind that these pointers are merely guides and they are bound to be influenced, in some degree, by personal taste and experience. What may work for others, may not for you. The only way to find out if they can assist you is to give them a fair test.

If you have any specific problems, why not write the Techniques Division for their aid?

### Exposure of Unfamiliar Films

While many photographers can't resist so-called bargains, few have been very successful in their use of cut-rate, outdated bulk film. Much of this is advertised as "government surplus" but its date of birth is nearly impossible to tell. Some of this film is of dubious manufacture while most of it fails to carry detailed technical data. Needless to say, it behooves the purchaser to look the gift horse in the mouth by making exposure-development tests so that he won't ruin never-to-be-retaken-pictures.

Most amateurs are familiar with the "bracket" system of exposure where the light meter reading is used as the base and two additional exposures are made for comparison purposes. One of these extra exposures is a full stop slower (in color, a half stop) or at half the base shutter speed. The third exposure is one stop faster or at twice the base shutter speed. This procedure should be mandatory when using any new emulsion, especially these days when there appears to be so much confusion about film speed.

Neil W. Miller of Oakridge, Oregon,

writes PS&T to tell of a method he utilized overseas when film was scarce and all he could procure was outdated Army 35mm. bulk b&w and color film. He found that variations in emulsions were so great that the above mentioned tests were inconclusive. Miller substituted a nine-stop exposure system which did the trick and it is explained below.

Load camera with enough film to give nine frames. Naturally, tests will be made of the same subject under identical lighting conditions, preferably with camera on a tripod.

A base speed of the film to be tested must first be arrived at from accompanying data, description or just guessing. Say you decide it's 32 ASA. Then compute your exposure by bracketing two full stops, at half-stop intervals, above and below your base, viz.: 8-12-16-24-32-48-64-96-125. In case you are testing film of a high ASA rating, it would be wise to extend exposures two from each extreme, making a total of thirteen.

Exposure meter markings vary so that you might find it difficult to compute your exposure index to correspond to an ASA rating (or GE-Weston). If this is the case, it is a simple matter to make a rating based on shutter speed or lens opening, whichever is easiest.

If all this sounds like a lot of trouble to go through, it is the penalty one pays for getting a bargain. Truthfully, the tests described consume little thought, time or energy. The conscientious worker will always make these tests with unfamiliar emulsions.

MAURICE H. LOUIS has long been an advocate of sound craftsmanship. Professional portraitist, lecturer, teacher and writer, he believes that basic fundamentals must be learned before the novice wades into deeper waters. Mr. Louis feels that this in no way will restrict the amateur's creative motivations. In fact, the mastery of tools and techniques will free the photographer from fetters which will allow him to explore artistic photography to the maximum.

## TECHNIQUES INFORMATION COMMITTEE

Questions—Answers—Information—Interpretation

**QUESTION:** What is the DECAMIRED System?

**ANSWER:** The Decamired System is a simple method of choosing the proper filter to match any of the several types of available color films to the light source being used. No more than six decamired filters are required as compared to the more than twenty filters now in common use. Some of the drawbacks of the presently used filtering methods are due to the fact that it is

based on the color temperature scale expressed in degrees Kelvin. This scale is non-uniform in the sense that a filter which gives a 100K correction at the 3200K level will give a different correction at another level such as 6000K. In addition, the nomenclature of present filters is neither descriptive nor indicative of the job they do.

In the Decamired System a uniform scale is used. In addition, decamired numbers are assigned to light sources and the

same numbers assigned to color films balanced for these light sources. The correct filter to use is indicated by the difference between the decamired number assigned to the film and the number assigned to the light source. If the film is balanced for the light source, there would be no difference between the numbers so no filter would be required. If the light source has a higher D/M number than the film, a B (bluish) filter would be used. If the light source has a lower D/M number than the film then a R (reddish) filter would be used. For example, daylight (film or illumination) has a D/M number of 18. Clear flash illumination has a D/M number of 26. Therefore, to use Daylight type color film (18) with clear flash (26) we would use a B-8 Decamired filter.

The Decamired System is not yet widely used in the United States but is gaining strength daily. The six Decamired filters are available from several sources so if you are interested, we suggest that you check with your photo dealer.

**QUESTION:** What filters should I use for underwater color photography?

**ANSWER:** Generally, the best course of action is to use no filter at all. Just below the surface, a light red or pinkish filter may be of some value but at lower depths so much red has been filtered out of the light by the water that it is futile to attempt to achieve a critical balance. In addition, the exposure becomes too great for snap-shooting even with the new fast color films. If critical color balance is necessary, it is best achieved by using electronic or regular flash at close range.

**QUESTION:** What is meant by "motion picture technique" as applied to slides?

**ANSWER:** "Motion picture technique" re-

### Diffuser

from page 4

a rare moth. Although it was well done, none of the judges knew what it represented and . . . out. The salon chairman,

fers to shooting sequences rather than single slides. For example, a long shot, a medium shot and finally a close-up of the same subject. This very effective technique depends somewhat on proper timing of the projection. The first slides in the sequence are usually projected in fairly rapid succession. The last or "climax" slide can then be held on the screen for whatever is a suitable length of time depending on the effect being created.

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(P.S.—Don't know the address? Look on page 2, 53, 56 or in your Membership Directory.)

who did know, invoked the rule that all rejects must be viewed twice and when this slide was thrown out again he asked the judges on what grounds they did so. They confessed total ignorance of the subject matter and when he

## The PSA Traveler



The Arrowhead Ruins in New Mexico are a good locale for interesting pictures into which can be woven bits of local history. The stone construction of houses and walls made for good defenses.

—Peggy Spotts, APSA.

explained what it was, they restored it and gave it an honorable mention.

Then there are the techniques judges. If a slide is made by a technique they haven't mastered, they throw it out. One well-known judge is death on electronic flash (he doesn't own one) in spite of the fact that they make some forms of good nature work possible. Another one suggested that all slides spotted or retouched in color should be barred. She hadn't mastered the technique.

Since in nature photography the subject matter is of greater importance than the photography why should judges who lack a broad knowledge, or who have pet prejudices be allowed to judge? Since PSA has no say whatever about the selection of judges except for the PSA Annual, why should PSA be blamed for faulty judging, even if the judges are members? We get many such complaints.

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Date .....

Please enter my application for membership in PSA. I understand that membership, if granted, shall entitle me to the rights and privileges of participation in the general activities of the Society, to receive its official publications, and to participate in the special activities of as many "divisions" of photographic interest as I have checked below.

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Any dues remitted herewith are to be returned if my membership is not granted.

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BAXENDALE, Miss Beatrice J., 535 First St., Palisades Pk., N. J. 11'57 CN

**Rudy Sisko**  
BEARD, Rohmer B., 4025 Mangum St., Shreveport, La. 11'57 CN

**Richard Saurke**  
BEEBE, James H., 1315 Shiloh Blvd., Zion, Ill. 11'57 NP

**Otto F. Wolaski**  
BITHER, L. E., 232 Rosemont Ave., Modesto, Calif. 11'57 CN

**A. J. Sturtevant**  
BROWN, Joe S., 5714 Theodora St., St. Louis 2, Mo. 11'57 P

**Larry Gray**  
BLUOR, Miss Florence E., 1801 Cedar St., Alhambra, Calif. 11'57 CP

**Floyd Norgaard**  
CARLSON, Miss Margaret C., 2508 Hartzell, Evanston, Ill. 11'57 N

**Donald Rias**  
CARNALL, John T., 7564 Ellis Ave., Maplewood, Mo. 11'57 CJST

**St. Louis Conv.**  
CARR, Ronald L., 148 Blount St., Apt. 1B, Toronto, Ont., Canada 11'57 JP

**M. C.**  
CARTER, John Roland, 17355 Via Carmen, San Loren 20, Calif. 11'57 C

**Helen Brethauer**  
CHINN, Theodore A., 3422 Burnet Ave., Cincinnati 29, Ohio 11'57 CJP

**C. W. Bastain**  
CHORLEY, Kenneth, Brickhouse Farm, RFD 1, Hopewell, N. J. 11'57 C

**John D. Green**  
COLLEY, Miss Sara R., 35 Alcott Rd., Mahwah, N. J. 11'57 CN

**Mary W. Brown**  
CONNOR, Miss Jean L., 219 Lancaster St., Albany 10, N. Y. 11'57 C

**Esther Cooke**  
COOPER, Miss Margaret, 510 Almond St., Syracuse 3, N. Y. 11'57 CP

**A. Mitchell Ruch**  
COTE, Theodore C., 57 Harland Ave., Lowell, Mass. 11'57 N

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COYNER, Robert G., 7113 Gillett Rd., Flushing, Mich. 11'57 CN

**Charles A. Jackson**  
CRABB, Rodney, 519 W. Reynolds, Pontiac, Ill. 11'57 CPT

**St. Louis Conv.**  
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DEGENHART, Mrs. Edith L., 15308 Honore Ave., Harvey, Ill. 11'57 M

**Lucille Kiestler**

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**Thomas H. Maynes**  
DOYLE, Miss Bess, 136 Sixth Ave., N.E., St. Petersburg, Fla. 11'57 C

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DYAR, Conrad E., 1110 E. 2nd St., Port Angeles, Wash. 11'57 P

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EARL, Miss Ruth, 612 Portland Ave., Baldwin, L. I., N. Y. 11'57 CNP

**Michael J. Abandon**  
EVANS, Robert W., 1132 Olive St., Santa Barbara, Calif. 11'57 CNT

**EVANS, Meta M. (Mrs. Robert W.),**  
1132 Olive St., Santa Barbara, Calif. 11'57 CNT

**Alfred Renfro**  
FLETCHER, Miss Mary H., 1131 Wakefield Dr., Alexandria, Va. 11'57 CJ

**Martin H. Miller**  
FOWLER, J. F., Jr., R.F.D. 1, Westover Rd., Stamford, Conn. 11'57 C

**Henry C. Miner, Jr.**  
FRIESNER, Alfred, 161 Hillcrest Rd., Mt. Vernon, N. Y. 11'57 CN

**FRIESNER, Margaret (Mrs. Alfred),**  
161 Hillcrest Rd., Mt. Vernon, N. Y. 11'57 CN

**Ludwig Kramer**  
GARRETT, Edward T., 1100 Fairview Ave., Dallas, Oreg. 11'57 P

**M. Craig Corver**  
GARWOOD, Thomas L., 1009 S. Main St., Benton, Ill. 11'57 P

**St. Louis Conv.**  
GEDNEY, Ray L., 2720 E. 79th St., Chicago 49, Ill. 11'57 P

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GREGORY, Richard S., 5421 Forest Circle, Paducah, Ky. 11'57 NP

**David M. Stanley**  
GUNNING, Andrew T., 2936 Krameria, Denver 7, Colo. 11'57 JP

**Elmer L. Boie**  
HAERING, E. A., P. O. Box 182, Glendora, Calif. 11'57 C

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**Ruth M. Rowe**  
KING, Ralph W., 154 N. 3rd St., Paterson 2, N. J. 11'57 C

**Leonard Ochman, Jr.**  
KRELL, Richard E., 944 S. Third St., San Jose 12, Calif. 11'57 C

**Mrs. Eleanor Irish**  
KNIGHT, Frank L., 543 Chenango St., Binghamton, N. Y. 11'57 CN

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LAI, Mon-Kom, 2 Bertram Rd., Bertrams, Johannesburg, South Africa 11'57

**Au Chi-Bin**  
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LOPEZ, Enrique Segarra, Prosperidad 12-204, Mexico, D. F., Mexico 11'57 P

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MACADAM, T. S., 332 Upper Richmond Rd., London, S. W. 14, England 11'57 S

**Mrs. Ruth Bauer**  
MAC DONALD, Ernest C., 2219 Belinda Ave., Pomona, Calif. 11'57 C

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MAJZEL, Dou B., Kibutz, Alonim, Haifa, Israel 11'57

**M. C.**

MANSFIELD, Victor P., 1614 Brockton, Los Angeles 25, Calif. 11'57 C

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**K. W. Kishonuah**  
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**Larry Gray**  
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**H. H. Erskine**  
McCAUSLAND, Dr. A. M., 1982 Micheltorena, Los Angeles 39, Calif. 11'57 C

**Leo S. Moore**  
McCAUSLAND, Arthur, 1982 Micheltorena, Los Angeles 39, Calif. 11'57 C

**Leo S. Moore**  
McELROY, Paul M., 117 S. Roosevelt Ave., Columbus 9, Ohio 11'57 CJ

**Gordon Custer**  
McLENDON, Miss Mary, 340 W. 12th St., Tracy, Calif. 11'57 C

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**Mrs. Lenore Rockwell**  
MITCHELL, Walter E., Jr., Perkins Observatory, Delaware, Ohio 11'57 C

**John O. Hav**  
MOIR, Mrs. Elsie Bertha, 30 Brandon Rd., Webster 1, Mass. 11'57 M

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MOORE, Charles F., 1001 Jefferson Rd., Rochester, N. Y. 11'57 T

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- Ralph Miller**  
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- Hort L. Roush**  
ROBERTS, William B., 1754 Kissingbower Rd., Augusta, Ga. 11'57 CNT
- Al Day**  
ROD, Al B., 8909 Rosewood Ave., Los Angeles 48, Calif. 11'57 CN
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- St. Louis Conv.**  
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- Dick Bird**  
SAMS, R. E., 1380 Beryl Ave., Mentone, Calif. 11'57 CN
- W. B. Moranville**  
SAXTON, Edwin C., 11220 Burton, Kansas City 21, Mo. 11'57 CN
- St. Louis Conv.**  
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- Ralph L. Mahon**  
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- Frank Kuper**  
SIGFORD, Dr. Kenneth J., 1987 Beacon St., St. Paul 13, Minn. 11'57 C
- John H. Wilke**  
SOBETSKI, John F., 2514 S. 23rd St., Omaha 8, Nebr. 11'57 CP
- A. L. Bliven**  
SPAULDING, Elynn J., 3136 Chula Vista, Redlands, Calif. 11'57 P
- Richard E. Workins**  
SPECKMAN, Robert B., 901 Cambridge Rd., Coshocton, Ohio 11'57 JP
- Dever Timmoos**  
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- D. D. McArthur, Jr.**  
TEESLINK, James J., 7515 Halliday Ave., Oakland 5, Calif. 11'57 P
- Miles K. Curtis**  
THORNTON, Dade W., 1528 N. W. 40th St., Miami 42, Fla. 11'57 NJP
- C. Verne Klintworth**  
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- M. C.**  
WALKER, A. R., 23 Pleasant St., Ware, Mass. 11'57 CP
- Blake S. Jackson**  
WALKER, Buss, Chattanooga Times, Chattanooga, Tenn. 11'57 NP
- Miss Elizabeth H. Cottle**  
WALLACE, Miss Ruth D., 287 Bradley Ave., Waterbury, Conn. 11'57 CNP
- Marion McKisack**  
WARD, Granville, 5926 W. Erie St., Chicago 44, Ill. 11'57 C
- Sarah B. Foster**  
WASHBURN, William P., 4081 Conly St., Philadelphia, Pa. 11'57 P
- Roy O'Day**  
WEBER, Arthur R., 32 Cinema Ln., Sappington 23, Mo. 11'57 C
- St. Louis Conv.**  
WEED, Frederick G., Orchard Lake, Mich. 11'57 P
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- Maurice H. Louis**  
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- Sarah B. Foster**  
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- Clyde S. Driscoll**  
EDO COLOR CAMERA CLUB, THE, % Tor J'Lonell, College Point 56, L. I., N. Y. 11'57 C
- Frank Priore & Robert Goldman**  
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NORTH CAROLINA-Asheville, Charles H. Harris, 1170 Haywood Rd. Western portion of N. Carolina. Specializes in mountain and lake scenery and historical places.

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MASS.-VERMONT-Wm. J. Barrett, 239 Columbia St., Adams, Mass. Familiar with Berkshires section of Mass. and southern Vermont.

ARIZONA-Bruce Cole, APSA, 3744 Calle DeSoto, Tucson. (Listed in error in Dec. Journal as Bruce White which was just some negative thinking!) Familiar with most of the state but especially with southeastern portion. Special interests are plants, birds and animals of southern Arizona and northern Sonora.

NOTE: All Travel Aides are volunteers, just like all PSA workers. Allow them time to answer your request and be sure to send them a stamped, self-addressed No. 10 (large) envelope with your request. To become a Travel Aide, write Jack Montgomery, address on page 56.

# Cinema Clinic

Conducted by George W. Cushman, APSA

## When They Get What They Want

Some of you will remember that about two years ago we ran a survey to see if clubs these days were forgetting the primary purpose for existing and were leaning too heavily towards merely entertaining their members.

The survey seemed to indicate that too many clubs were going on an entertainment basis, neglecting to give the members the help and assistance in movie making that they had joined the club to get.

Whether or not a reversal of the programming would be better received by the club was a question which had, at that time, no ready answer.

Now, we do, indeed, have a very definite answer to that question:

For the past four years our local movie club has run primarily an entertainment program. Each meeting night (twice a month) has been composed mostly of showing members' films, be they good, bad, or indifferent (the films, I mean).

Some films were good, some films were bad, and many of the members were indifferent.

In 1957, however, a complete reversal in programming was instituted. Every meeting program was designed to assist the movie maker in some way to help him better understand movie making, to get better results from his efforts, to instruct him on how to better use his equipment, and to more intelligently employ the mechanics and techniques of movie making. Showings of members' films were scheduled on a different night in order that nothing should interfere with the informative

and educational format of the regular schedule.

What happened? Let's look at the facts:

In 1953 eight new members joined and ten dropped out.

In 1954 two joined and ten dropped out.

In 1955 four joined and nine dropped out.

In 1956 six joined and eleven dropped out.

For these four years, the average is exactly five in and ten out per year. Obviously, if this average kept up for long, the club would lose all its members.

Then beginning in 1957, the program of educational meetings began. The result at year's end: *Eighteen new members had joined the club and only one had dropped out.* And he had moved out of town.

Here is factual evidence of what happened when the members were given what they wanted—what they joined the club to get, instead of receiving whatever was easiest for the program chairman to provide.

Furthermore, attendance throughout the year was up. Two meetings played to a standing room only situation!

### Still Scenes

Many amateur filmmakers are often told that every scene should have action. Otherwise their film is a series of post-card shots.

This is not exactly true.

I have seen amateur films, and so have you, in which every scene contained action, yet when the film was over I had the distinct feeling that I had seen a group of unrelated post card

scenes, in so far as movement of theme and continuity was concerned.

In order to make our point clear, it may be well to define two words: action, and movement. Action is the moving about that takes place by an actor, an animal, or an object such as a car, boat, train, or airplane in a given scene. Movement is the invisible progression of the story, the theme, or the continuity, that is seldom seen in a sequence but is distinctly felt.

I have often felt movement in a slide lecture. I have seen movies in which each scene was filled with action, yet there was no movement because these scenes were isolated scenes. They were not related to one another. There was no connecting link from one to the next. No underlying force was moving forward as the scenes continued to flash on the screen.

From this it can almost be said that a sequence of scenes in which there is no action but in which there is movement, or progression of story or theme, makes a better motion picture than a series of unrelated scenes in which there may be action.

To give an example: I recall once seeing scenes of a tornado in a documentary film. When the tornado had died down the filmer showed scenes of the results. There was no action in any of the scenes. There didn't need to be. The camera took us down the main street of a small Kansas town showing us medium and close shots of the havoc that had been wrought.

I felt the aftermath of the tornado throughout this sequence. The impression of disaster grew within me. Any kind of action in these scenes would have definitely detracted from the impression the filmer wanted to portray. He wanted to show that in the aftermath of the catastrophe all was still, quiet and dead. Any action in these scenes would have defeated his purpose!

If the motion picture is to convey thoughts and meanings, most any means of conveying such thoughts and meanings are justified, even though they may include a series of so called still shots, or, perhaps more aptly, shots lacking visible action.

Take for example a scene in which suspense is the desired effect the filmer wants. He shows an armed outlaw being chased by a detective. The outlaw runs into a deserted farmhouse, looks out the window at his pursuer. With his gun the outlaw breaks out the pane of glass, fires a shot at the detective.

The detective takes cover behind a tree, then peeks around the tree so that he can keep an eye on the window.

At this point come a series of still shots. We cut from the window, in

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which no action takes place (the outlaw is hiding inside out of sight) to the detective hiding behind the tree. He doesn't move. He just waits and watches. We cut back and forth several times, constantly building up suspense. There is no action in these several shots. They are, to use the amateur's word, "post card shots." "Got to have action in every scene," says the novice.

Yet in this example the action, the tenseness of the situation, exists in the mind of the spectator. The filmer has conveyed his message adequately. These quiet, actionless scenes serve a purpose, and no action in them is needed, nor would it improve them.

Scenes devoid of action have a place in the motion picture. Before you criticize, analyze these shots, study the overall plan and the reason for their use. If you must criticize lack of motion in a motion picture, which is a good and worth while criticism, criticize the lack of movement of continuity or of theme throughout the film, not merely the lack of action in a given scene which, after all, may have a definite purpose in the greater, overall plan.

## New Products

The big annual Trade Show of the photographic industry (last year it was an international event at Washington) is only a month away as this is written, and the news of new equipment is rather thin. Most manufacturers are holding back for the big show and we will be flooded with news releases at that time. Maybe we can get some of it in the April issue but since the date coincides with the date we go to press it is not too likely. We'll get some by mail in time but we'll pick up still more information in Chicago and get it into May. We already know of some very interesting new equipment but can't tell you about it until April because release dates are March 17.

The biggest news during this past month has been the release of **Super Anscochrome Tungsten**. One of the magazines has a spread in color in the current issue. It has exposure indexes of 100 with 3200° K. lamps, 80 in daylight with the 85B conversion filter.

If you are accustomed to shooting under photofloods or flash, you may wonder why the film is balanced for 3200. A moment's thought will show you that it is a very smart move. The film is so fast, even without forced development, that it can be used for available light photography. Under these conditions you will have lamp color temperatures of a wide range to contend with. Ordinary house tungsten burns at around 2800, studio floods at 3200, photofloods at 3400, clear flash at 3800. Fluorescents are likely to be any color, even the so-called whites cover a wide band of Kelvin ratings. But most of your available light work will be done under regular tungsten and a 3200° film will not be too cold and for stage lighting (unfiltered) it will be just

right. For photofloods you can use an 81A filter and for clear flash an 81D.

Naturally you are not going to get color fidelity on the screen except with the 3200 lamps, but if you saw the night movie shots made with the daylight film which were shown at St. Louis, you'll recall that your seeing soon adjusted itself to the added warmth and the enjoyment of the pictures more than compensated for the lack of fidelity. We'd go so far as to say that some of the finest color salon shots we've seen have used intentional color distortions to achieve desired effects.

A clever part of the promotion of this new film is a book of large matches labeled "22 light sources" and each one is bright enough to produce a pleasing picture when it is held about six inches from the face. The match book should be saved as it is loaded with exposure data.

While the film is rated at EI 100, it can be forced as high as EI 200 with some distortion, with EI 150 as a happy medium. Super Anscochrome Tungsten is now available in 35mm, 20-exposure cartridges at \$2.35. The 120 size will be ready about April 1.

### Camera News

A new Voigtlander Vitomatic I, 35mm camera with 50mm f:2.8 Kodak Skopar lens, single-stroke film wind, Prontor SLK-V shutter with nine speeds and full MX synch is being introduced at \$89.50. A brilliant life-size viewfinder with bright-line fram-

(See New Products, p. 55)

## PSA Trading Post

The Trading Post is for the use of all PSA members, and members only, free of charge. Copy must be brief and complete. It must reach the Editorial Office, 28 Leonard St., Stamford, Conn. by the 20th of the month and will normally appear in the next following issue. PSA assumes no responsibility because of this free listing service.

**WANTED**—PSAers who would like some interesting jobs in PSA activities. Many types of work available, no pay but lots of fun. Apply to Louise Botteron, APSA, 2302 N. Anthony Blvd., Ft. Wayne 3, Ind. 2t

**SELL OR TRADE**—Super D Graflex, 3½x4½, 190mm lens, accessories, Canon 35mm with exquisitely sharp f:1.8, 100mm tele., case. Frank Gill, 106 Lincoln St., Oil City, Pa. 2t2

**WANTED**—In A-1 condition for Kodak Ektra camera the following: 154mm lens with cap and case; high/low viewfinder; right angle viewfinder, one magazine back. Send quotations to W. J. R. Hauser, P. O. Box 531, Middletown, Conn. 2t2

**WANTED**—Grossbild Technique (English ed.) Vol. 1, 1955 and Vols. 1, 2, 3, 1956. Will pay \$06 each in good condition, plus postage. F. L. Johnstone, Rt. 99, Portland, Me. 2t2

**SALE**—Leica M-3, f:2 Summicron, case. Brand new, never used, \$300. 90mm f:2 Summicron lens, new, \$190. Inspection privilege. A. W. Biber, 232 E. Main St., Spartansburg, S. C. 2t2

**SALE**—4x5 square board Meridian camera. 9½", 8¼", 7", 6", 5¼", and 4" Goerz Dagor lenses in shutters; cut film holders; case for all. Will sell complete or trade for mint U. S. collection stamps, plate blocks or sheets. Frank Gill, 106 Lincoln St., Oil City, Pa. 2t2

**WANTED**—Zeiss Ikon Contaflex I or II close-up device for Contax II camera. Please state price and condition and include list of parts. 10-day examination required. Geo. C. Bartholmees, 330 Church St., Bonne Terre, Mo. 2t2

**WANTED**—PSAers with a photographic problem. The Techniques Information Committee would like to help you. Write John R. Kane, R. D. #1, Chenango Forks, N. Y. 3t2

### 1958 Tours for Camera Fans Personally Conducted By

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For details:

### THRU THE LENS TOURS

4344 Laurel Canyon Boulevard  
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### New England School of Color Slide Photography

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Camden, Maine Four one-week courses  
June 28 to July 26.

Tamworth, N. H. Nature Week, Sept. 20-27.

Troy, N. H. Fall Foliage Week, Oct. 5-10.

Write for illustrated brochure.

Mrs. Emily H. Bush, Director

22 Leamington Road, Brighton 35, Mass.

**ROLLEIFLEX** for sale. Spotless, like new. Camera serial no. 1,448,656. 75mm Tessar f:3.5, LVS and standard settings, case, lens hood, two filters with case. Complete \$135 or will consider trade for Leica equipment and accessories. E. J. Raimond, 1624 N. Newland Ave., Chicago 35, Ill. 2t3

**SALE**—Schneider-Kreuznach Xenar lens, 105mm, f:4.5 for Exakta VX. New cond, \$40 net, Alfred W. Pick, 1015 17th St., Denver 2, Colo. 2t3

**SWAP**—Wish to exchange 35mm color slides with anyone, Vernon W. White, P.O. Box 137, Devonport, Tasmania, Australia. 2t3

**SELL OR TRADE**—Kodak D-19 developer, Govt. surplus. Have 24 one-gal. size cans. Will sell or trade for Dektol or other items. E. J. Raimond, 1624 N. Newland Ave., Chicago 35, Ill. 2t3

**SALE**—Leica IIIIf, black dial, 50mm Summarit f:2, 35mm w.a. Steinheil f:4.5, 135mm Serenar f:4, 2 viewfinders, Nooky for close-ups, leather case, all excellent cond. \$285, William E. Callahan, 1233 8th St., Wenatchee, Wash. 2t3

**CONTAX**—Pre-war items for Contax I and II, must be mint condition. Plate back, holders, cutting template for glass plates, developing tank for same, developing reel for tray, Universal Field Close-Up and Copying Stand or anything for a collector. John W. Doscher, FPSA, So. Woodstock, Vt. 2t3

**BUY & SELL**—Will buy B&L telephoto for National Graflex and wide angle and tele for Praktika FX. Will send Omega B for 2¼ x 2¼ and 35mm. Double condensers, 3" Schneider Componar in foc. mt. Extra condenser, sunk mount and film holder for 35mm. H. W. Rogers, 38 Maple Ave., Hamilton, N. Y. 2t3

**THIS IS NEWS**—Anti-minicam reactionary wants 6½ x 8½ to 11 x 14 view camera with RR or better lens and glass plate holders. Can replace bellows and repair woodwork but price is important. All replies answered. C. B. Porter, 1828 N. Parkway, Memphis 12, Tenn. 2t3

**VACATION EXCHANGE**—Business lady with small southern California home, near ocean scenery, Disneyland, etc., for scenic mountain home for two weeks July or August. Object: Photography. Best of references. Interested? Write: Mrs. Beth Duncannon, 208 East Ellis, Inglewood, Calif. 2t3

**WANTED**—1951 issue of Popular Photography Annual. Will pay up to \$5 if in good condition. Ralph Burbridge, 118 W. 36 St., Erie, Pa. 2t3

**WANTED**—Your ideas on best ways to add sound to 8mm movies. I'm an engineer, weak on photo tricks. All replies appreciated and answered. Larry Price, 2304½ L. W. W., Mishawaka, Ind. 2t3

**SALE**—Voigtlander Vitessa L with f:2 Ultron, eveready flash case, 2 filters and lensshade. Outfit in like-new cond. \$110 postpaid. Jane Campbell, Coal City, Illinois. 2t3



# Exhibitions & Competitions

## Monochrome

Note: M—monochrome prints, C—color prints, T—color transparencies, SS—stereo slides, L—monochrome slides, A—architectural prints, S—scientific or nature prints. Entry fee is \$1.00 in each class unless otherwise specified.

## PSA Approved

These salons initially approved for monochrome portion only by Pictorial Division. See other listings on this page for approval of other sections.

(For listing and approval send data to Ralph L. Mahon, APSA, 260 Forest Avenue, Elmhurst, Illinois.)

**Kortrijk** (M.C.) Closes Mar. 1. Exhibited Apr. 1-20 in Town Hall of Courtray. Data: J. E. Van Driessche, Meiweg 9, Kortrijk-Courtray, Belgium.

**Runcorn** (M.T.) Closes Mar. 3. Exhibited Apr. 9-12 at Technical College. Data: L. Owen, 104 Shady Lane, Weston Point, Runcorn, Cheshire, England.

**Louisville** (M.T.M.P.) Closes Mar. 12. M fee \$2.00; T \$1.25; MP \$2.00 and up. Exhibited Apr. 5-19 in Times Bldg. Data: F. H. Ruffa, Jr., 977 Schiller Ave., Louisville 4, Kentucky.

**Western** (M.S.L.T.) Closes Mar. 13. Exhibited Apr. 19 to May 10 at Bristol Art Gallery. Data: C. P. L. Ricketts, 16 Lockingwell Road, Keynsham, Somerset, England.

**Beeton** (M.T.) M closes Mar. 15; T Mar. 22. M fee \$1.50. Exhibited Apr. 6-13 at Boston Camera Club gallery. Data: Miss Bertha L. Hill 1 Avalon Rd., Melrose, Mass.

**Hertford** (M.S.T.L.) Closes Mar. 15. Exhibited Apr. 25 to May 3 at Corn Exchange. Data: I. R. Street, 26 Ware Road, Hertford, Herts., England.

**Genoa** (M.C.) Closes Mar. 15. Exhibited Apr. 19-30. Data: Associazione Fotografica Ligure, Salita S. Caterina 8, Genoa, Italy.

**San Bernardino** (M.) Closes Mar. 17. Exhibited Apr. 10-29 at Natl. Orange Show. Data: Ellsworth Fiscel, 919 27th St., San Bernardino, Calif.

**Cincinnati** (M.) Closes Mar. 17. Fee \$2.00. Exhibited Apr. 9-20 at Univ. of Cincinnati Applied Arts College. Data: Wm. E. Snyder, 3363 Queen City Ave., Cincinnati 38, Ohio.

**Marine** (M.T.) Closes Mar. 18. Fee \$1.50. Exhibited Mar. 23 to Apr. 20 at museum (50 prints at Smithsonian Institution May 1-31). Data: Mariners Museum, Newport News, Virginia.

**Nairobi** (M.S.T.) Closes Mar. 22. Exhibited Apr. 7-19. Data: Exhibition Secretary, P.O. Box 392, Nairobi, Kenya, East Africa.

**So. African** (M.T.) M closes Mar. 28; T Apr. 4. Exhibited May-July at five cities. Data: Johannesburg Photographic and Cine Society, P.O. Box 10763, Johannesburg, So. Africa.

**Seattle** (M.T.) Closes Mar. 31. M fee \$2.00; T \$1.00 and return postage. Exhibited Apr. 16 to May 11 in Art Museum. Data: Roy B. Johnson, 7711 Earl Ave., N.W., Seattle 7, Washington.

**Baltimore** (M.C.T.) Closes Apr. 9. Fee \$1.00 and return postage. Exhibited Apr. 18 to May 14. Data: Leonard F. Lauber, 3119 Texas Ave., Baltimore 14, Md.

**Barcelona** (M.C.T.) Closes Apr. 15. Exhibited during May. Data: Agrupacion Fotografica d Catalunya, Duque de la Victoria 14, pral, Barcelona, Spain.

**Tonawick** (M.) Closes Apr. 23. Fee \$1.00 and return postage. Exhibited May 12-24. Data: John J. Corrigan, 1357 Taft Road, W. Englewood, New Jersey.

**Myasore** (M.S.) Closes Apr. 25. Exhibited June 12-26. Data: C. Varadhan, The Craiga, Seshadripuram, Bangalore 3, India.

**Midland** (M.S.T.S. Slides) Closes Apr. 26. Exhibited June 7-28 at Cheltenham Art Gallery. Data: Geo. W. Billson, "Greygables", 27 Thurnview Road, Leicester, England.

**Springfield YMCA** (M.) Closes May 8. Fee \$2.00. Exhibited after May 13. Data: T. C. McMillen, YMCA, Limestone and North St., Springfield, Ohio.

**Scottish** (M.C.S.L.T.S. Slides) Closes May 17. Fee \$1.00 and return postage. Exhibited June 14 to July 5 at Gracefield Art Center, Dumfries. Data: W. Grier, Glendoune, Albert Rd., Dumfries, Scotland.

**Southwest** (M.T.) M closes May 28; T June 5. Exhibited June 27 to July 6 at San Diego County Fair. Data: R. J. Smith, P.O. Box 337, La Mesa, California.

**Finger Lakes** (M.T.) Closes May 31. Fee \$1.00 and return postage. Exhibited June 10 to July 5 at Cayuga Museum. Data: Miss Marjorie Tiebout, 205 Genesee St., Auburn, New York.

**Edmonton** (M.) Closes June 14. Exhibited July 14-19 at Pavilion of Photography. Data: Edmonton Exhibition, Edmonton, Alberta, Canada.

**Copenhagen** (M.C.) Closes June 20. Exhibited Aug. 10-24 at Charlottenborgs Art Gallery. Data: Aage Remfeldt, Havdrup, Denmark.

**Pondicherry** (M.) Closes June 30. Exhibited in August. Data: R. R. Gangou, Secy., Ashram Photography, Sri Aurobindo Ashram, Pondicherry, India.

**Sydney** (M.T.) Closes July 2. Exhibited Aug. 2-12 at Town Hall. Data: A. R. Andrews, 325 Pitt St., Sydney, Australia.

**Newcastle** (M.C.T.S. slides) M closes Sep. 10; T Sep. 24. Fee \$1.00 and return postage. Exhibited Oct 11 to Nov. 1 at Art Gallery. Data: W. W. Pope, 9 Kimberley Gardens, Newcastle upon Tyne, England.

## Other Salons

**Harpenden** (M.S.L.T.) Closes Mar. 26. Fee \$1.00 plus return postage. Exhibited Apr. 28 to May 3 in Public Hall. Data: R. V. Roberts, Reversion, Topstreet Way, Harpenden, Herts., England.

**Turin** (Agricultural) (M.C.T.) Closing date Apr. 20. No fee. Exhibited May 15-25. Data: Dr. Rinaldo Priore, Via XX Settembre 2, Turin, Italy.

## Color

(For listing and approval send data to Adolph Kohnert, West Main St., America, N.Y.) Entry fee \$1, unless otherwise specified.

**Louisville**, April 15-17, deadline March 12. Forms: Andrew Kostolnik Jr., 2302 West Lee St., Louisville 10, Ky. Entry fee \$1.25.

**Cincinnati**, Apr. 9-20, deadline Mar. 17. Forms: Miss Dorothy Nerish, 1608 Fifth Third Bank Bldg., Cincinnati 2, Ohio.

**Boston**, Apr. 6-13, deadline Mar. 22. Forms: Bertha L. Hill, 1 Avalon Road, Melrose, Mass. 2 1/4 x 2 1/4 slides accepted.

**Kenya**, Apr. 7-19, deadline Mar. 22. Forms: J. H. Reers, P.O. Box 30043, Nairobi, Kenya, East Africa.

**Seattle**, Apr. 7-May 11, deadline Mar. 31. Forms: Miss Dorothy Marie Smith, 6003 32nd Ave., N.E., Seattle 15, Wash.

**So. Africa**, May 12-14, deadline Apr. 3. Forms: L. E. Tweddie, P.O. Box 7024, Johannesburg, South Africa.

**Multnomah County**, April 23-27, deadline April 7. Forms: J. George Eisenhauer, P.O. Box 406, Gresham, Oregon. 2 1/4 x 2 1/4 slides accepted.

**New Zealand**, Apr. 18-May 14, deadline Apr. 8. Forms: Robert G. Withers, P.O. Box 381, Tauranga, New Zealand.

**Auburn**, Apr. 19-27, deadline Apr. 9. Forms: Verne Fellows, 1373 Lincoln Way, Auburn, Calif.

**Baltimore**, Apr. 18-May 4, deadline Apr. 9. Forms: Louis Eiford, 4616 Schley Ave., Baltimore 6, Md.

**Teaneck**, May 12-24, deadline Apr. 23. Forms: John J. Corrigan, 1357 Taft Rd., West Englewood, N. J.

**Reading**, May 25-June 2, deadline May 5. Forms: John A. Falkenstein, Exch. Sec. R.F.D. No. 4, Reading, Pa.

**Columbus**, June 13-20, deadline May 10. Forms: Merle Rhoten, 2223 Neil Ave., Columbus 1, Ohio.

**Oregon Trail**, June 3-21, deadline May 12. Forms: Wm. A. Pollock, P.O. Box 132, Forest Grove, Oregon.

**Calgary**, July 7-12, deadline June 4. Forms: Chas. J. Everest, 2208 5th Ave., N.W., Calgary, Alberta, Canada.

**Southwest**, June 27-July 6, deadline June 5. Forms: R. J. Smith, P.O. Box 337, La Mesa, Calif. 2 1/4 x 2 1/4 slides accepted.

**Sydney**, Aug. 3-12, deadline July 2. Forms: A. R. Andrews, 325 Pitt St., Sydney, Australia.

**Newcastle-Upon-Tyne**, Oct. 11-Nov. 1, deadline Sept. 24. Forms: W. Warburton Pope ARPS, 9, Kimberley Gardens, Newcastle Upon Tyne 2, England.

**Portland**, May 11-25, deadline April 30. Forms: Bradford Brown, Portland Museum of Art, 111 Hight St., Portland 3, Maine.

## Nature

(For listing and approval send data to H. J. Johnson, FPSA, 2134 W. Concord Pl., Chicago 47, Ill.)

**Saguaro**, Apr. 1-6, deadline Mar. 13. Forms: Agnes Holst, 1902 E. Willetta St., Phoenix, Ariz.

**Cincinnati**, Apr. 9-20, deadline Mar. 17. Forms: Dorothy Nerish, 1608 Fifth Third Bank Bldg., Cincinnati 2, Ohio.

**Orange**, Apr. 10-26, deadline March 24. Forms: Ellsworth Fiscel, 919 27th St., San Bernardino, Calif.

**Multnomah**, Apr. 23-27, deadline Apr. 7. Forms: Harry Hirsch, 1741 S. E. Elliott Ave., Portland 14, Ore.

**Buffalo**, May 9-18, deadline Apr. 21. Forms: Janice Goldsmith, Buffalo Science Museum, Humboldt Park, Buffalo, N. Y.

**Columbus**, Jan. 13-20, deadline May 10. Forms: Merle Rhoten, 2223 Neil Ave., Columbus 1, Ohio.

**Denver**, June 14-July 5, deadline June 2. Forms: Barrie Bieler, 3280 Otis St., Wheat Ridge, Colo.

**Calgary**, July 7-12, deadline June 4. Forms: Chas. Everest, 2208 5th Ave., N. W., Calgary, Alta., Canada.

**Santa Barbara**, July 12-26, deadline July 1. Forms: Conrad Jarabum, 1019C East De la Guerra, Santa Barbara, Calif.

## Stereo

(For listing send data to Lewis F. Miller, APSA, 8216 Morgan St., Chicago 20, Ill.)

**Cincinnati**: Closes March 17, 4 slides \$1. Forms: Dorothy Nerish, 1608 Fifth Third Bank Bldg., Cincinnati 2, Ohio.

**Salt Lake**, closing April 5, 4 slides \$1. Forms: Mattie C. Sanford, 1426 South 11th East, Salt Lake City 5, Utah.

**Oakland**: Closes April 7, 4 slides \$1. Forms: Ben D. Tooley, 324-13th Street, Oakland 12, California.

**3rd PSA Traveling**: Closes April 14, 4 slides \$1. Forms: Ted Laatsch, AFSA, 406 W. Clovernook Lane, Milwaukee 17, Wisconsin.

**Hollywood**: Closes May 2, 4 slides (or VM Reels) \$1. Forms: Dr. Duane M. Smith, 7866 Seville Ave., Huntington Park, Los Angeles County, California.

**Wichita**: Closes May 17, 4 slides \$1. Forms: Leona Hargrove, 619 N. Ridgewood Drive, Wichita 6, Kansas.

**Scottish**: Closes May 17, 6 slides \$1. Plus return postage (3se). Forms: W. Grier, Glendoune, Albert Road, Dumfries, Scotland.

**New York**: Closes May 31, 4 slides \$1. Forms: Frank Porter, 43-14 60th St., Woodside 27, N. Y.

## PSA Competitions

**Convention Color Slide Show**—See data page 46, February Journal. Closes August 1. J. F. Englert, APSA Sec'y, 853 Washington Ave., Rochester, N. Y.

**Nature Slide Competition For Individuals**—4 slides 2" or 2 1/4". Two classes. Data: Dr. B. J. Kaston, 410 Blake Rd., New Britain, Conn. Contest closes March 15; entries to Mrs. Mildred S. Bender, 630 E. Catharine St., Chambersburg, Penna.

**CD Portrait Competition**—Two classes formal and informal; two sizes 2" or 2 1/4"; limit 4 slides either size. Data and entry form: John Sherman, APSA, Box 3623 Loring Sta., Minneapolis 3, Minn. Close: May 1.

**Color Print Competition For Individuals**—Four prints any process, including hand coloring \$1 for series of 3 contests, 50¢ each, free to CD members. Closes May 1. Data: Virginia Goldberg, 635 Jefferson Ave., Reading 15, Ohio. Entries to Jack Lowe, 403 Montgomery St., Marietta, O.

**Individual Slide Competition For Stereo**—Four slides which have been rejected by salons, in metal or plastic mounts, entrants must not have more than 19 score in Who's Who. \$1 postage for 3 contests to SD members. Next closing May 15. Forms and data from: Karl Struss, 1343 N. Orange Grove Ave., Hollywood 46, Calif.

**CD Slide Sequence Competition**—Two divisions: travel sets of 50 to 100 slides and photo essay of 25 to 100 slides, both with commentaries. Entries close June 1, 1958. Entry forms and data from: T. C. Wetherby, 116 Ave. L, Pittsburgh 21, Pa.

**International Club Print Competition**—Three classes, clubs may join at any time. Write for data to Ralph M. Carpenter, 99 Orange St., Stamford, Conn.

**Nature Print Contest for Individuals**—B&W prints on any nature subject, size 5x7 and up. Send prints to Ted Farrington, APSA, c/o Chicago Natural History Museum, Grant Park, Chicago 5, Illinois. Closes May 15.



## New Products

from page 53.

ing is also featured. A new type exposure control simplifies settings. The built-in exposure meter has a "floating" ring on the dial. Turning the setting ring on the lens to bring the circle over the meter pointer automatically adjusts diaphragm and shutter for the light value measured by the meter.

**Graflex** has taken over the marketing and distribution of the Kallodex 2½x2½ twin-lens reflex in this country. The camera features coaxial film wind and focus controls, all scales visible from above, MFN shutter with speeds to 1/500th. The camera will retail at \$119.50, leather case \$11.50.

## Movies

**Bell & Howell** have introduced a new zoom lens having a speed of f:2.2 and a four to one range of focal length variation. It will fit all movie cameras with standard C mount. The focal length can be varied from 17mm to 68mm by movement of a handle. A reflex viewfinder is provided which can be swung out of the way for easy loading of the camera, or removed completely if desired. Focusing is done through the finder and parallax problems are eliminated. Series 7 filters are used with a 50.5mm adapter ring. The lens was designed by Pierre Angenieux and is made by him to B&H specifications. The lens alone is priced at \$429.95 and is standard equipment on the new B&H 240-Z camera which is priced at \$579.95.

**Revere's** new CA-4 camera, magazine loading, with the electric eye exposure computer is equipped with a three-lens turret system for normal, wide-angle and telephoto pictures. Price is \$199.50.

**Camera Equipment Co.** has a modification of the Kodak Analyst projector which provides flicker-free projection at speeds of 6 to 20 frames a second in both forward and reverse. The projector can be stopped on a single frame for study. This equipment is especially valuable for analyzing sport films, time-motion studies or films of manufacturing processes. The price is \$795.

## Flash

**American Speedlight** will be showing many new electronic flash units at Chicago, including two lightweight transistor models of 100 w/s and 200 w/s rating which operate on D-cells, nickel cadmium battery or AC. They will also have a new backlight-spotlight unit which can be fitted with snoot, barn doors or diffusers. Also a new tinted reflector which eliminates the need for correction filters. Incidentally, Ascor has a new data sheet which lists all their equipment and accessories, guide numbers, power supplied, etc. It is available free to PSAers who write them mentioning the PSA Journal. Their address is 63-01 Metropolitan Ave., Middle Village 79, N. Y.

**General Electric** has a miniature No. 5 flashbulb, to distort the truth slightly. It is the PowerMite M5, with 20 millisecond delay which will accurately synchronize with the M shutters. At the same time they

introduced the M25B which is designed to work best with box-type cameras using daylight color film. There is also an M5B, blue counterpart of the M5. M5 will sell at 14c and M5B at 17c. All these lamps are filled with shredded zirconium foil. The M5 has a light output of 16,000 lumen-seconds (the No. 5 is 20,000) and in the miniature three-inch reflector recommended for this series the guide numbers are equivalent to the No. 5 in its reflector.

## Slides

The **Realist 620** projector now has some new accessories which broaden its use. A slide adapter for the new Polaroid slides sells for \$4.95. A stereo slide adapter for showing one of a stereo pair lists at the same price. There is also a conversion lens which may be used to increase the screen image size when projecting 2x2 slides.

Instead of putting this under literature, we have decided it is a worthwhile accessory for the new color worker. It is a 64-page Kodak book "Outdoor Adventures in Color Slides" which contains more information than the beginner actually needs, but which at the same time whets his appetite for making pictures other than of the new baby. What's more, it not only suggests these fit camera subjects but tells how to get them. How to solve outdoor lighting problems, hints for putting impact into pictures, pictures from the air, in caves, underwater. How to get close up, flower pictures, titles and the making of sequences. You can get it at a Kodak dealer for 50 cents.

And speaking of sequences, here's a nice tool to help you edit them. The **Pictar slide editor** holds 20 slides at a time over a diffused light. Molded shelves keep the slides in place on the leaning screen. It sells for \$13.98. Made by Pictar, 2212 E. 12th St., Davenport 1, Iowa.

## Did you know?

A new album for Polaroid prints is fitted with acetate pockets and is made by **Callen Photo Mount Corp.** . . . **Kodak Lens Cleaner** is now sold in a squeeze bottle at 75 cents for one ounce. . . . A folding flash-gun for baseless lamps is made by **Accura** and sells for \$3.95. . . . **Accura** is all ready with tele and wide-angle lenses for the **Retina Reflex** at \$24.95 each. . . . The same firm makes an enlarger focuser which utilizes aerial images, no ground glass, sells for \$3.95. . . . The first Japanese film to reach the U. S. market is **Sakura Konipan**, said to be an ortho-pan, selling at 85 cents for a 20-exp. 35mm cartridge, rated ASA 100 daylight, ASA 80 tungsten. . . . You can get a funny photo-greeting card in every pack of most **Sylvania** flashbulbs now being marketed, and for two bits you can get six more, all different, by using the order form packed with the bulbs.

## Literature

If you can use photodrawings in your work, you'll want a copy of **Booklet P-22** on that subject from **Kodak's Sales Service**. Several methods of reproduction are discussed. If you have a youngster who has a camera bent, or if you are a teacher, youth leader or guidance counsellor from

the same source you can get a copy of **Adrian Ter Louw's "Photography in your future."** Like any of his writings, it is sound, down to earth advice.

A pocket-size booklet describing the action and use of the new **Clayton P-60** fine grain developer based on Phenidone, is yours if you mention the Journal when writing **Clayton Chemical Co.**, 2100 W. Dempster St., Evanston, Ill. It contains conversion tables for film speeds and developing times.

October 1 to 4 is the big date.  
Philadelphia is the place.

## PSA Services Directory

(Corrected to Feb. 1, 1958)

### PSA Publications

(All inquiries about circulation should be addressed to Headquarters, 2005 Walnut St., Phila. 3, Pa.)

#### Editors:

**PSA Journal**—Don Bennett, FPSA, 28 Leonard St., Stamford, Conn.

**Color Division Bulletin**—Mrs. Vella Finne, APSA, 1827 E. 4th St., Long Beach, Calif.

**Motion Picture News Bulletin**—James P. Dobyns, 48 Westwood Dr., E. Rochester, N. Y.

**Nature Shots**—Alfred Renfro, FPSA, 2018 Santa Barbara St., Santa Barbara, Calif.

**P-J Bulletin**—Dick Harris, Box 118, Missoula, Mont.

**Pictorial Division Bulletin**—Sewell Peaslee Wright, FPSA, P. O. Box 333, Springfield, Ill.

**Stereogram**—Anthony Bruculere, 87 Quinn Rd., Rochester 23, N. Y.

**PS&T**—Ira B. Current, FPSA, 26 Woodland Ave., Binghamton, N. Y.

**Camera Club Bulletin**—Russell Kriete, APSA, 3946 N. Lowell Ave., Chicago 41, Ill.

### Services to Exhibitions

(Recognition, listing and approval of exhibitions is handled for PSA by the several Divisions. Who's Who listings are published annually. Notices of coming exhibitions should be sent to persons listed on the Exhibitions and Competitions page.)

### Aids and Standards

**Color**—Adolph Kohnert, W. Main St., Amenia, N. Y.

**Nature**—H. J. Johnson, FPSA, 2134 W. Concord Pl., Chicago 47, Ill.

**Pictorial**—Ralph L. Mahon, APSA, 260 Forest Ave., Elmhurst, Illinois

**Stereo**—Frank Porter, 43-14 60th St., Woodside 77, N. Y.

### Master Mailing List

**Color**—Miss Lillian Draycott, 447-A Washington Ave., Brooklyn 38, N. Y.

**Nature**—Mrs. E. H. Roper, 3523 Oakway Drive, Toledo 14, O.

**Pictorial—North American Salons**, Philip Solomon, APSA, 52 Lexington Road, W. Hartford 7, Connecticut.

**Overseas Salons**, Alfred W. Hecht, Hotel St. George, Clark and Henry Streets, Brooklyn 1, New York.

**Stereo**—W. Arthur Young, APSA, 471 Weidel Rd., Webster, N. Y.

### Who's Who

**Color**—Mrs. Pearl Johnson, 661 Merton Rd., Detroit 3, Mich.

**Color Prints**—Harry Baltaxe, 91 Payson Ave., New York 34, N. Y.

**Nature**—Mrs. Louise K. Broman, FPSA, 166 W. Washington St., Chicago 2, Ill.

**Stereo**—Mrs. Ruth Bauer, 3750 West St., Mariemont, Cincinnati 27, Ohio.

**Pictorial—N. American**, Philip Solomon, APSA, 52 Lexington Rd., W. Hartford 7, Conn.

**Overseas**, Alfred W. Hecht, Hotel St. George, Clark & Henry Sts., Brooklyn 1, N. Y.

# PSA Services Directory

(Continued from preceding page)

## PSA Services

### For Individuals

**Chapters**—John Sherman, APSA, Box 3623, Loring Sta., Minneapolis 3, Minn.  
**Travel**—Tom Firth, FPSA, Trappe, Md.  
**Travel Aides**—John P. Montgomery, Jr., APSA, P. O. Box 7013, Orlando, Fla.

## Division Services

### Color Division

**CD Membership Slide**—Dr. C. W. Biedel, APSA, 3309 Halvorsen St., Bremerton, Wash.  
**Exhibition Slide Sets and Travel Slide Sets**—East: Charles Jackson, 406 E. York Ave., Flint 5, Mich.; Central: Wm. A. Bacon, P. O. Box 15, Jackson, Miss.; West: Mrs. Marian Roberts, 5079 Aldama, Los Angeles 42, Calif.  
**Hospital Project**—Send slides to Chas. H. Green, APSA, 19261 Linda Vista Ave., Los Gatos, Calif.  
**Star Ratings**—Mrs. Eugenia D. Norgaard, 206 S. Lake St., Los Angeles 4, Calif.  
**Star Ratings (Prints)**—Harry Baltaxe, 91 Payson Ave., New York 34, N. Y.  
**Slide Circuits**—R. B. Horner, APSA, 2921 Cassia, Boise, Idaho.  
**International Slide Circuits**—John Modderjongs, APSA, 7414 Manhattan Ave., Cleveland 29, Ohio.  
**Slide Study Groups**—Dr. C. W. Biedel, APSA, 3309 Halvorsen St., Bremerton, Wash.  
**Instruction Slide Sets**—Albert Widder, APSA, 77-14 113th St., Forest Hills, N. Y.  
**Color Print Competition**—Miss Virginia Goldberg, 635 Jefferson Ave., Reading, Ohio.  
**Color Print Circuits**—L. G. Young, 40 Madison Ave., Summit, N. J.  
**Color Print Set**—Mrs. Eileen Widder, 77-14 113th St., Forest Hills 75, N. Y.  
**Hand Colored Print Circuit**—Mrs. Evelyn Curtis, 5320 Broadway, Oakland 18, Calif.  
**International Slide Competition**—Robert H. Kleinschmidt, 41 Parkside Crescent, Rochester 17, N. Y.  
**Permanent Slide Collection**—George F. Johnson, FPSA, Forestry Bldg., State College, Pa.

**Library**—Hoyt L. Roush, APSA, Johnston Bldg., Charlotte 2, N. C.  
**Travel Slide and Story Competition**—Tracy Wetherby, 116 Avenue L, Pittsburgh, Penna.  
**Portrait Competition**—John Sherman, APSA, Box 3623—Loring Station, Minneapolis 3, Minn.  
**Emde Slide Sequence**—Maurice Lank, APSA, 10829 Westminster, Los Angeles 34, Calif.

### Motion Picture Division

**Annual Film Competition**—Charles J. Ross, 523 W. 6th St., Los Angeles 14, Calif.  
**Book and Film Library**—John T. Booz, 9110 Western Hills Drive, Kansas City, Mo.  
**Film Analysis and Judging Service**—Ernest F. Humphrey, 1152 Hetfield Ave., Westfield, N. J.  
**Music Service**—Miss Helen Welsh, 25 Forest Ave., Lynbrook, L. I., N. Y.  
**Technical Information**—Larry Sherwood, FPSA, 1105 Truman Rd., Kansas City 6, Mo.  
**Continuity Service**—Charles J. Ross, 3580 Griffith Park Blvd., Los Angeles 27, Calif.

### Nature Division

**Print Contest**—Leonard A. Thurston, FPSA, 811 Edison Ave., Detroit 2, Mich.  
**Instruction Slide Sets**—Ludwig Kramer, APSA, Cottage School, Pleasantville, N. Y.  
**Exhibition Slide Sets**—George Clemens, APSA, Route 4, McConnellsville, Ohio.  
**Print Sets**—Howard E. Foote, APSA, 481 Ft. Washington Ave., New York 33, N. Y.  
**Librarian**—Albert E. Cooper, P. O. Box 628, Omaha 1, Nebraska.  
**Hospital Project**—Send slides to Chas. H. Green, APSA, 19261 Linda Vista Ave., Los Gatos, Calif.  
**Star Ratings**—Dr. Gordon B. White, APSA, 239 Sugarloaf St., Port Colbourne, Ontario, Canada.  
**Print Competition**—Leonard A. Thurston, FPSA, 811 Edison Ave., Detroit 2, Michigan.  
**Slide Competition**—Dr. B. J. Kastan, APSA, 410 Blake Road, New Britain, Conn.  
**Slide Study Circuits**—Alfred W. Cooper, APSA, P. O. Box 579, Worland, Wyo.  
**Print Study Circuits**—Le Roi Russell, 343 Shasta, Prescott, Arizona.  
**Technical Information Service**—Edward H. Bourne, APSA, 40 Woodside Drive, Penfield, N. Y.  
**Commenting Service for Newer Workers**—George W. Robinson, P. O. Box 10, Merced, California.

### Photo Journalism Division

**Journalism Circuits**—Larry Ankerson, 148-26 29th Ave., Flushing 54, N. Y.  
**Critiques**—Lewis E. Massie, P. O. Box 745, Del Mar, Calif.

**Slide Set Directory**—Dr. S. Wayne Smith, 560 S. Shilling Ave., Blackfoot, Idaho.  
**International Slide Set Exchange**—Frank B. Bayless, 320 Cowell Ave., Oil City, Pa.  
**Color Slide Circuits**—Ray J. Smith, P. O. Box 337, La Mesa, Calif.  
**National Club Slide Competition**—Smith MacMullin, APSA, 5540 Garth Ave., Los Angeles 56, Calif.  
**Color Print Set**—Mrs. Eileen Widder, 77-14 113th St., Forest Hills 75, N. Y.  
**Pictorial Chicago Project**—Miss June Nelson, APSA, 5555 Sheridan Road, Chicago 40, Illinois.  
**Judging Service**—Walter Jarvis, 13316 Ludlow, Huntington Woods, Mich.

### Motion Picture Division

**Club Film-Program Exchange Service**—John T. Booz, 9110 Western Hills Dr., Kansas City, Mo.

### Nature Division

**Print Contest**—Leonard A. Thurston, FPSA, 811 Edison Ave., Detroit 2, Mich.  
**Instruction Slide Sets**—Ludwig Kramer, APSA, Cottage School, Pleasantville, N. Y.  
**Exhibition Slide Sets**—George Clemens, APSA, Route 4, McConnellsville, Ohio.  
**Print Sets**—Howard E. Foote, APSA, 481 Ft. Washington Ave., New York 33, N. Y.  
**Librarian**—Albert E. Cooper, P. O. Box 628, Omaha 1, Nebraska.  
**Hospital Project**—Send slides to Chas. H. Green, APSA, 19261 Linda Vista Ave., Los Gatos, Calif.

## Pictorial Division

**PD Information Desk**—Miss Shirley Stone, 8 E. Pearson St., Chicago 11, Illinois.  
**American Portfolios**—Mrs. Barbara M. Sieger, APSA, 200 Braunsdorf Rd., Pearl River, N. Y.  
**International Portfolios**—William M. Rowland, 2129 24th St., Bakersfield, Calif.  
**Star Exhibitor Portfolios**—Dr. Robert M. Cochran, 452 Aquila Ct., Omaha 2, Neb.  
**Portrait Portfolios**—Miss Dorothy Kluth, 2415 W. Birchwood Ave., Chicago 45, Illinois.  
**Portfolio Clubs**—Sten T. Anderson, FPSA, 3247 Q. St., Lincoln 3, Nebraska.  
**Portfolio Medal Award**—Doris Martha Weber, FPSA, Jacklin Rd., Hinckley Lake, Rt. 2, Brunswick, Ohio.  
**Picture of the Month**—Alicia Parry, 609 Sedgwick Dr., Syracuse 3, N. Y.  
**Award of Merit (Star Ratings)**—Leta M. Hand, APSA, 1927 Devonshire Ave., Lansing 10, Mich.  
**Personalized Print Analysis**—Dr. John W. Super, APSA, 18861 Puritan Ave., Detroit 23, Mich.  
**Salon Workshop**—C. Jerry Derbes, FPSA, 128 W. Northside Dr., Jackson, Miss.  
**Salon Labels (Enclose 3c stamp)**—Mrs. Lillian Ettinger, APSA, 1330 Birchwood Ave., Chicago 26, Ill.  
**PD Membership**—East: Jane A. Heim, P. O. Box 7095, Orlando, Fla. West: Mrs. Elizabeth T. McMenemy, 1366 E. Mountain Dr., Santa Barbara, Calif.  
**PD Service Awards**—J. M. Endres, FPSA, 1235 Circle Dr., Tallahassee, Fla.  
**Contests of the Stars**—Gilbert R. Lehmbeck, 19318 Eastwood Drive, Harpers Woods 36, Mich.

### Stereo Division

**Personalized Slide Analysis**—Fred Wiggins Jr., APSA, 438 Meacham Ave., Park Ridge, Ill.  
**Individual Slide Competition**—Ezra C. Poling, 65 Strong St., Rochester 21, N. Y.  
**Slide Circuits**—Pearl Johnson, 661 Merton Rd., Apt. 3, Detroit 3, Mich.  
**Slides for Veterans**—Mrs. Dorothy Young, 260 Yale Ave., Berkeley 8, Calif.  
**Old Stereo Library**—L. B. Dunnigan, APSA, 921 Longfellow, Royal Oak, Mich.  
**Traveling Salon**—Ted Laatsch, APSA, 406 W. Cloverbrook Lane, Milwaukee 17, Wis.  
**Star Ratings**—Helen Brethauer, 4057 Masterston St., Oakland 19, Calif.  
**SD Membership Slide**—John C. Stick, 1701 S. Bushnell Ave., So. Pasadena, Calif.

### Techniques Division

**Photographic Information**—John R. Kane, R. D. No. 1, Chenango Forks, N. Y.  
**Traveling Exhibits**—John F. Englert, APSA, 853 Washington Ave., Rochester, N. Y.

**Veterans Hospital Slide-Getter Sets**—Miss Jean Edgumbe, 40 Frankland Road, Rochester 17, N. Y.  
**National Club Slide Competition**—Irma Louise Rudd, APSA, 1602 S. Catalina, Redondo Beach, Calif.

### Pictorial Division

**American Exhibits**—East: Frank S. Pallo, 343 State St., Rochester 4, N. Y. Central: Dr. C. F. Wadsworth, 608 Brown Bldg., Wichita, Kans. West: Bosworth Lemere, APSA, 1795 Ocean Oaks Rd., Carpinteria, Calif. Northwest: Al Deane, 5022-50th Ave., S.W., Seattle 16, Wash.  
**Club Print Circuits**—Edmund V. Mayer, 20 Metropolitan Oval, New York 62, N. Y.  
**Club Print Judging Service**—Don E. Haasch, 3005 Teton St., Boise, Idaho.  
**International Club Print Competition**—Ralph M. Carpenter, 99 Orange St., Stamford, Conn.  
**Portfolio of Portfolios**—Gretchen M. Wipert, APSA, 12237 E. Kerrwood St., El Monte, Calif.  
**Salon Practices**—Ralph L. Mahon, APSA, 260 Forest Ave., Elmhurst, Illinois.  
**Salon Instruction Sets**—Ira S. Dole, 1322-10th Ave., Lewiston, Idaho.

### Stereo Division

**Club Services**—Rolland Jenkins, 409 Grand Ave., Englewood, N. J.  
**National Club Stereo Competition**—Glen Thrush, 1407 E. 11th Ave., No. 4, Denver 18, Colorado.

# CLUBS

## PSA Services

### For Clubs

**Camera Clubs**—Fred W. Fix Jr., FPSA, 5956 Sheridan Rd., Chicago 40, Ill.  
**National Lectures**—George Munz, FPSA, 37 Homestead Pl., Bergenfield, N. J.  
**Recorded Lectures**—Fred H. Kuehl, 2601 46th St., Rock Island, Ill.  
**Tops**—R. B. Horner, APSA, 2921 Cassia, Boise, Idaho.  
**International Exchange Exhibits**—East: Fred Reuter, 38 Sycamore Dr., New Middletown, O. Central: Wilson H. Shorey, APSA, 809 Putnam Bldg., Davenport, Iowa. West: Mrs. LeVert B. Hendricks, 2264-5th Ave., San Diego 1, Cal.

## Division Services

### Color Division

**Veterans Hospital Slide-Getter Sets**—Miss Jean Edgumbe, 40 Frankland Road, Rochester 17, N. Y.  
**Exhibition Slide Sets**—East: Frederic B. Shaw, 2410 Truman Ave., Bronx 61, N. Y. Mid-West: Paul S. Gilleland, 7502 Nottingham Ave., St. Louis 19, Mo. West: Walter F. Sullivan, 915 Franklin St., San Francisco 9, Calif. (Incl. Canada, Alaska & Hawaii.)

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